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The Effect of Creative Culture on Aggressive Financial Reporting

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THE EFFECT OF CREATIVE CULTURE ON
AGGRESSIVE FINANCIAL REPORTING

A Dissertation Presented

by

RYAN DALE GUGGENMOS

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2015

Isenberg School of Management

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DEDICATION

For the Mom who raised me and the one that sent me off to college (again).

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ABSTRACT

THE EFFECT OF CREATIVE CULTURE ON AGGRESSIVE FINANCIAL REPORTING

MAY 2015

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Chief Executive Officers identify creativity as the leadership competency most desired in business today (IBM 2010). As companies recognize the benefits of creativity and innovation, managers are increasingly looking to build creative cultures within their organizations. However, research in psychology suggests that there may be unintended negative consequences to these attempts. In this study, I predict and find that innovative company culture primes creative thought and, in turn, leads to higher levels of real earnings management (REM) behaviors. Using construal level theories of psychological distance proposed by Trope and Liberman (2010), I design and test both a lower-level and a higher-level construal-based intervention to reduce real earnings management in these cultures. As I predict, a lower-level construal intervention reduces REM behaviors, but a higher-level construal-based intervention reduces REM behaviors to a greater extent. My findings have implications for diverse groups of business professionals. For example, identifying negative unintended consequences of creative corporate culture can help management more effectively assess risk across the organization. Also, the findings of this study could provide external auditors with information about client risk as early as the client acceptance stage of the audit. The study's findings also inform boards of

directors and audit regulators of a potential indicator of lower earnings quality. In addition, I contribute to the emerging accounting literature regarding real earnings management behaviors and to the psychology literature addressing the link between self-interested behavior and creativity, as well as to research examining the effects of construals on decision making under uncertainty.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

According to a recent survey of over 1,500 Chief Executive Officers, creativity is the single most important leadership competency needed for enterprises to navigate the path through today's complex global business environment (IBM 2010). As a consequence, countless books, magazine articles, and blog posts are written on how to build creative culture, with suggestions ranging from scheduling "creative time" to telling managers to "get weird" (Chima 2013). This is not surprising, as innovative company culture has many benefits. For example, innovation within organizations can lead to exciting new products, greater agility in fast-paced business environments, and development of novel business processes. Further, when working in innovative companies, employees who prefer innovative cultures have been found to have lower turnover intentions, implying that the benefits of innovative culture may be self-sustaining (O'Reilly, Chatman, and Caldwell 1991). However, prior research suggests there may be downsides to these cultures. For example, innovative thought can lead to higher levels of dishonesty and elevated preferences for risk-taking (Gino and Ariely 2012; O'Reilly et al 1991).

These findings raise concerns about the effects of creativity across the organization, even as corporate leaders seek to build innovative cultures in their companies. Because corporate culture is so tightly interwoven into life within the organization, a culture of creativity likely colors the decisions workers make. Unintended consequences of creative thought, such as heightened dishonesty or preferences for risk

taking, could increase the chances that managers will act in their own self-interest and that earnings quality will be comprised.

1.2 Real Earnings Management and Creative Culture

In the post Sarbanes-Oxley era, accounting researchers have shown that management is less likely to manage earnings through manipulation of accruals and more likely to manage earnings through the strategic timing of investing, financing and operating decisions (Cohen, Dey, and Lys 2008). These techniques, known as real earnings management (REM) strategies, present an interesting dilemma for auditors and accounting regulators. Unlike accrual manipulation, REM does not involve the misstatement of the company's records. However, engaging in REM often involves trading off long-term benefits to the company in the pursuit of short-term rewards and, in many cases, REM strategies reduce firm value (Roychowdhury 2006).

To the extent that incentives exist to tempt managers to meet earnings targets, such as bonus payouts or promotion potential, managers may wish to pursue REM strategies as a way to act in their own self-interest without manipulating the accounting records. In fact, even though REM has generally been regarded as harmful by accounting academics, managers may not see the practice in the same light, as some managers consider REM to be the “good” kind of earnings management (Commerford, Hermanson, Houston, and Peters 2014b). In addition, prior research shows that even managers who question the ethicality of REM may be able to justify REM when these activities are framed as a “business decision” (Bailey 2014). Accordingly, REM strategies may be especially attractive to managers in more innovative company cultures, as they involve a “creative” way to achieve company benchmarks. That is, REM is a method to alter the

perceived economic health of the firm, while leaving the underlying accounting records intact. To the extent that more creative cultures engender business environments where higher levels of risk are preferred or managers have an enhanced ability to justify their actions, REM may be elevated.

1.3 Construal Level Theory

Because there are many benefits to creativity and innovation within organizations, even if creative cultures are found to increase REM behavior, suggesting that companies curb innovation is not a viable option. However, research in psychology may provide an intervention that could reduce these negative unintended consequences.

Construal level theory of psychological distance argues that as decision-makers contemplate courses of action, they may consider the outcome of their actions as mental representations known as construals (Liberian and Trope 2008; Trope and Liberman 2010). Depending on how a choice is presented to a decision maker, the decision maker may mentally construct the outcome of the decision as being more or less proximate to the individual. These mental constructions are known as construals. Lower-level construals have been found to focus decision makers on the near-future impact of their choices (Rogers and Bazerman 2008). In contrast, higher-level construals, being more superordinate, prompt more “big-picture” thinking, increase self-control, and decrease preferences for immediate gratification (Fujita, Trope, Liberman, and Levin-Sagi 2006).

For example, assume a manager is presented with a decision to cut spending on repairs and maintenance this quarter in order to meet an earnings target (and make her bonus). Without intervention, personal incentives to meet this target are likely to be quite salient. However, if the decision is framed to invoke a lower-level construal mindset, the

manager is more likely move past considering only herself to consider the near-future impact of her choices on others. Alternatively, the manager could be nudged into a higher-level construal mindset. Again, she may be less likely to think about herself, but in this case she may be more likely to consider the bigger-picture, long-term consequences of her actions, in turn making her more likely to resist the temptation of short-term rewards. This implies that, even though higher- and lower- level construal level theory-based interventions affect decision consideration differently, higher-level construal theory-based interventions may be more effective than lower-level construal theory-based interventions at reducing self-interested manager behaviors related to creative corporate culture.

1.4 Overview of the Study

In my experiment, participants with management experience were told they were beginning a new position in a hypothetical company. At the beginning of the experiment, participants learned the history of the organization and completed a task to help become immersed in the company's culture. While the history of the organization was held constant across experimental conditions, the company's culture was manipulated to reflect a more or less innovative company culture. Once participants finished the culture immersion task, they were asked to make a financial spending authorization decision. This decision, a determination of how much spending to authorize for previously budgeted repairs to outdated kitchens in a multinational restaurant chain, was held constant across all conditions and presented to all participants. However, the financial decision prompt was manipulated to present a lower-level construal-based intervention, a higher-level construal-based intervention, or no intervention. This results in a 2 x 3

(*innovative corporate culture by construal level theory-based intervention*) between participants design in which *innovative corporate culture* is manipulated as *more* or *less innovative* and intervention is manipulated at three levels: *intervention absent*, *lower-level construal-based intervention*, and *higher-level construal-based intervention*.

1.5 Preview of the Results

The results of my experiment are consistent with my predictions. First, I find that, absent intervention, a more innovative company culture leads to a higher level of self-interested REM behavior when compared to a less innovative company culture. Second, in a more innovative company culture, I find that while a lower-level construal intervention does reduce self-interested REM behavior, a higher-level construal intervention is more effective at curbing this unintended consequence.

The findings of this study present several contributions. Although prior research has examined how unscrupulous company leadership can foster environments where fraud and misreporting are accepted (Mayer, Aquino, Greenbaum, and Kuenzi 2012; Patelli and Pedrini 2013), accounting research has not yet investigated unintended consequences of desirable corporate cultures. This is an important area for research, as noted by Dichev, Graham, Harvey, and Rajgopal (2013) who call for deeper analysis of the effects of corporate culture on earnings quality. In addition, research has not assessed how mindsets cultivated by a company's organizational culture can cause unwanted outcomes when carried over to other tasks. Further, while the psychology literature is beginning to consider potential adverse consequences of creative thought (Gino and Ariely 2012), research has not yet examined potential interventions to curb any resulting behaviors. Finally, this study extends the growing literature on construal level theory and,

to my knowledge, is the first to provide evidence that negative unintended consequences of creativity can be mitigated through construal level theory-based (CLT) interventions.

The results of this study should also be of interest to several groups of business professionals. First, managers looking to increase innovation in their companies should be aware that, while there are advantages to cultivating innovation, there are potential pitfalls as well. As it is inadvisable to suggest that companies forego innovation, my study demonstrates an effective intervention to curb undesirable side effects of cultivating creative culture, while maintaining the benefits. From a public accounting standpoint, Public Company Accounting Oversight Board (PCAOB) Auditing Standard No. 5 requires auditors of public companies to evaluate the control environment of the company (PCAOB 2007). Therefore, to the extent that seemingly irrelevant characteristics of company culture can affect the control environment through an increased preference for risk and greater acceptance of self-interested behavior, both auditors and the audit committee should consider this preference shift in this risk assessment process. Even though a company's culture may not appear harmful, *prima facie*, if elements of the culture increase the acceptability of risky behavior, they ought to be considered. Finally, this study's findings provide information for accounting regulators. As audits are selected for inspection by the PCAOB using a risk-weighted approach (PCAOB 2012), research that provides regulators with indicators of enhanced risk may be useful in determining which engagements should be identified for inspection.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews several areas of literature in order to build a framework for examining the effects of creative corporate culture on financial reporting. In addition, the chapter reviews literature in psychology and accounting necessary to develop construal level theory-based interventions to mitigate unintended consequences of creative culture on self-interested behavior. The second section reviews the creativity and innovation research in the psychology and accounting literatures. The third section discusses research into corporate culture. The fourth section reviews the real earnings management literature. The fifth and sixth sections review construal level theory and the situated inference model, respectively. Finally, the seventh section offers concluding remarks.

2.2 Creativity

Research into creativity and innovation has been a prominent area of research in psychology for over 100 years, with nearly every major twentieth-century psychologist examining how it is that people are creative and what it means to be so (Runco 1999). Early conceptualizations of creativity focused on creativity as a stable trait evidenced through creative process. Guilford (1950) provides a representative definition stating that, “creativity refers to the abilities that are most characteristic of creative people”. This definition implies that creativity is a function of the person. Guilford advanced this personality trait-based view of creativity in a 1949 address to the American Psychological Association and was credited with spurring a new era of creativity research (Amabile 1983).

Over time, the process-based viewpoint of creativity has fallen out of favor and been replaced with a more product-focused viewpoint of creativity. More recently, Amabile (1983) conceptualizes creativity as “that which produces effective surprise” or “novelty in the idea, ... adapted to reality.” Newell, Shaw, and Simon (1962) also focus on creativity as the intersection of novelty and appropriateness to the task at hand.

Amabile (1983) reviewing definitions of creativity recognizes the need for both a conceptual and operational definition of creativity, as research up until that point had some agreement on the concept of creativity, but little agreement as to how to operationalize it. Starting with a product-focused view to develop an operational definition, Amabile (1982) states, “creativity can be regarded as the quality of products or responses judged to be creative by appropriate observers, and it also can be regarded as the process by which something so judged is produced.” This operational definition provides a framework in which to evaluate creative attempts and to judge the relative creativity of ideas and products.

With operational and conceptual definitions of creativity in hand, more recent research has turned to methods to motivate creativity in individuals. Amabile (1997) presents the Intrinsic Motivation Principle of Creativity arguing that while task expertise and creative thinking are necessary conditions to creativity, intrinsic motivation is what separates moderately and highly creative thinkers. The author argues that historically, the element that a thinker’s work is a labor of love is often the difference between levels of creative output. Thus, to the extent that a person derives enjoyment from their work, one can expect a higher level of creative output.

Following this work, researchers have examined ways that changes to organizational systems and policies could potentially increase creativity. Andriopoulos and Lowe (2000) suggest that perpetually challenging workers can enhance workers' internal drive and lead to higher levels of creativity. Amabile, Schatzel, Moneta, and Kramer (2004), in an exploratory study, find that perceptions of support from company leaders can increase creativity. In addition, Moulang (2013) finds that interactive performance measurement systems can increase individual creativity through increases in perceived empowerment. And, Gassman (2001) finds that organizational diversity, in the form of multicultural teams, is associated with higher levels of creativity.

In addition, scholars have examined common barriers to creativity that arise in organizations. Wong and Pang (2003), in a survey of hotel managers, find that managers perceive time pressure and a need to maintain the status-quo as significant impediments to creativity. Using a psychometric scale-based approach, Amabile (1996) finds that workload pressure and organizational impediments often impair creativity. Kanter (1983) presents 10 rules for stifling innovation that include hierarchy, control of action, and lack of segmentation, among others. On balance, social and environmental characteristics appear frequently in both theories of motivating creativity and investigations of impediments to creativity. This implies that a thinker's social environment can have a significant impact on creative thought.

2.2.1 Creativity Research in Accounting

While creativity and innovation have not been widely researched in accounting, there has been some work done in the area. Bryant, Stone, and Wier (2011) conduct a mixed-methods analysis of creativity and accounting work, finding archivally that

professional accounting requires no less creativity than three selected competing professions (law, engineering, and health care) and that greater creativity may be required for financial accounting, when compared with auditing and taxation work. The paper also includes a survey of governmental accounting professionals, Masters of Accountancy students, and M.B.A. students, finding no relationship between ethics and creativity. The authors note that stereotypes about accounting work may lead less creative individuals to self-select into accounting and this could be harmful to the quality of accounting work.

In addition to the general investigation of accounting and creativity mentioned above, accounting scholars have investigated the role of incentives in motivating creativity within organizations. Using an experiment where participants design “rebus puzzles”, Kachelmeier, Reichart, and Williamson (2008) find that combining creativity and quantity based measures in a creativity-weighted pay scheme leads to lower levels of creativity than pure quantity incentives. Further analysis reveals that participants incentivized for creative output simply produce less output, implying that incentivizing creativity may not only fail to increase creative output, but may also lead to less output in general. In a follow-up study, Kachelmeier and Williamson (2010) examine whether selection of a contract that rewards both creativity and quantity versus a contract that rewards quantity only leads to higher levels of creative work. The authors find that while creativity-based pay scheme contract selection leads to higher levels of initial creativity, these gains in creative output are eclipsed by quantity-based contracts over time.

Examining the role of incentives in group-based creative tasks, Chen, Williamson, and Zhou (2012) find that three-person groups tasked with finding a creative solution to a problem are more collaborative and have higher group cohesion when paid via a group

tournament pay scheme. However, when an individual tournament pay scheme is in place, creativity of group solutions is no higher than individual solutions. Taken together, these works imply that individual incentives for creative work may not function as managers expect, and in fact, may not provide as much benefit as individual quantity incentives or creativity incentives at the group level.

Grabner (2014) extends this literature by investigating the impact of an organization's creativity dependency on incentive system design. The author finds that performance-based pay may not always have an adverse effect on creativity and instead argues that performance-based pay systems should be used in tandem with subjective performance evaluations. Via an archival investigation, the authors find that a "complementarity" approach, where both performance-based pay and subjective performance evaluations are used in tandem, is associated with creativity-dependent firms and that conditional correlations between performance-based pay and subjective performance evaluations are positive and significant for highly creative firms, but insignificant for less creative firms.

Finally, Plumlee, Rixom, and Rosman (2015) present one of the first investigations into the role of creativity in audit work. The authors, interested in the effect of metacognitive training on analytic review task performance, provided divergent and convergent thinking training to junior auditors. Participants were either provided with both convergent and divergent thinking, divergent thinking only, or no metacognitive instruction. The divergent thinking training manipulation implored auditors to consider generation of alternative explanations as a "creative challenge" and the convergent thinking training manipulation directed participants to test explanations using logic-based

tests found in formal hypothesis testing. The authors found that junior auditors chose the correct explanation for deviations from analytic expectations more frequently when provided with both convergent and divergent thinking training, implying that providing auditors with training on how to think creatively may increase their ability to generate novel explanations for unexpected audit findings.

Creativity research in accounting, up until this point, has focused on ways to increase creativity in organizations through incentives. However, this body of research has only considered the proximate effects of incentivizing creativity on a task of interest; accounting scholars have not investigated potential downstream effects of creativity incentives on other tasks that decision makers may face. To the extent that these effects are negative, creativity incentives may lead to suboptimal outcomes in other areas of the organization.

2.2.2 Negative Consequences of Creativity

As stated above, research investigating the downsides of creativity has only emerged recently in the psychology literature and, until this study, potential downsides have not been investigated in the accounting literature. In the psychology literature, the first study to investigate potential downsides of creativity was conducted by Gino and Ariely in 2012. The authors present a series of five experiments that test the hypothesis that a creative mindset promotes individuals' abilities to justify their behavior, which, in turn, leads to unethical behavior. Gino and Ariely (2012) demonstrate that both trait- and state-based creativity lead to enhanced justification ability and, ultimately, to dishonest behavior. Further, the authors show that trait- and state-based creativity may actually have an interactive effect on dishonest behavior. Gino and Ariely (2012) find that, when

participants scored low in trait-based creativity, an experimentally induced creative mindset was associated with higher levels of creative performance and dishonesty. However, when participants scored high in trait-based creativity, an experimentally induced creative mindset was no longer associated with creative performance or dishonesty. This finding implies that trait-based creativity moderates the relationship between primed creativity and dishonesty, such that those who have high trait-based creativity are less influenced by creativity priming than those who have lower trait-based creativity. However, this may be the result of a ceiling effect, as participant *z*-scores reveal that those with high-trait creativity and no creativity prime exhibit levels of cheating three standard deviations above the mean.

Utilizing an affect-based explanation for elevated wrongdoing, Ruedy, Moore, Gino, and Schweitzer (2013) demonstrate that affective benefits may accompany unethical behavior as dishonest behavior may engender feelings of intelligence and “pulling the wool over” on someone. To the extent that creativity is able to enhance one’s ability to generate novel methods to conduct and justify unethical behavior, this work would imply that individuals may feel good about participating in unethical behavior and, more importantly, may feel best when the unethical behavior was especially clever.

Finally, Gino and Wiltermuth (2014) present a series of 5 experiments demonstrating that not only does creativity lead to dishonesty, but also, dishonesty can lead to creativity. By providing participants opportunities to behave dishonestly by overreporting performance on various tasks, the authors found that those that behaved dishonestly were subsequently more creative. This association held even when dishonesty was operationalized as cheating through omission, instead of commission. Process

measures indicated that both creativity and dishonesty share the feeling of breaking rules. Accordingly, the bidirectional association between creativity and dishonesty can be explained by feelings of being unconstrained by rules. Taken together, these studies provide preliminary evidence that potential downsides to creativity may exist and that these downsides may be a consequence of individuals' enhanced justification ability and feelings of being unconstrained by rules. Further, the extent of these downsides may be exacerbated by affective benefits of unethical behavior.

2.3 Corporate Culture

Smircich (1983) recognized five themes in organization and management research where the concept of “culture” from anthropology and the concept of “organization” intersect.¹ The author defines *corporate culture* as that which occurs when “organizations exist by process of exchange with the environment” and “unite individuals into social structures.” Corporate culture serves as a “sense-making” device and provides employees with guidance on how to approach decisions at work by providing employees with a sense of identity, facilitating commitment to something larger than the self and enhancing social stability (Smircich 1983).

In a landmark study, O'Reilly, Chatman, and Caldwell (1991) developed and validated an instrument to assess the congruence between employee attitudes and organizational attitudes. This instrument, known as the Organizational Culture Profile (OCP), allows for the calculation of person-culture fit by examining the correlation between organizational values and employee preferences. The authors administered the OCP to five different participant populations, including a group of new accounting firm

¹ These themes were: comparative management, corporate culture, organizational cognition, organizational symbolism, and unconscious processes and organization.

employees. Using factor analysis, the authors found seven distinct factors of corporate culture. This implies seven dimensions of corporate culture. These dimensions are: innovation, stability, respect for people, outcome orientation, attention to detail, team orientation, and aggressiveness. Relevant to my study, the innovation dimension of corporate culture was highly positively correlated with preferences for: experimenting, risk-taking, information sharing, and autonomy. On the other hand, the innovation dimension was highly negatively correlated with: stability, carefulness, rule-orientation, security, being highly organized, and predictability.

Also examining the role of culture within the organization, Smircich and Morgan (1982) investigate the role of culture and leadership. The authors argue that a principle function of leadership is to manage shared meaning throughout the organization. Schein (2010) notes that corporate culture determines who ascends through the company's ranks into leadership positions, while at the same time, company leaders manage and shape culture.

Expanding the investigation of company culture to its effects outside the organization, Miles, Snow, Meyer, and Coleman (1978) proposed a model for the relationship between corporate culture and strategy. This model introduces the idea that companies generally move through their markets as prospectors or defenders.

Prospectors gain a competitive advantage by dynamically reacting to business opportunities and attempting to exploit available these opportunities as they become available. As their name implies, prospectors are generally on the offensive, looking to grow their set of opportunities. On the other hand, *Defenders* seek to maintain a stable organization and compete by offering a limited set of products geared towards a small

portion of the market. Defenders are more likely to commit resources to defending their position in the market than actively seeking new opportunities. Innovative corporate culture has been more highly associated with prospectors, than defenders.

Recently, Cohn, Fehr, and Marechal (2014) examined how the salience of business culture, manipulated as professional identity salience, affects levels of honesty in the banking industry. The authors recruited 128 bank employees from a large international bank and randomly assigned the employees to a control condition where their professional identity as bankers was not made salient and to a treatment condition where their professional identity as banker was made salient. Results showed that those participants primed with their professional identity as a banker committed dishonest acts at a significantly higher rate. This implies that a culture does not have to be overtly harmful to have a deleterious effect on ethical decision making. Taken together, research findings across the management and strategy literatures related to corporate culture provide evidence that corporate culture is a pervasive construct that could have a significant effect on managerial decision making.

2.3.1 Communicating Culture

As stated above, corporate culture is pervasive and serves as a “sense-making” device to employees in the organization. Accordingly, researchers have investigated the ways in which cultural norms and values are communicated to employees. Smircich (1983) notes that researchers have often taken an anthropological approach to investigating how culture is communicated to employees. In these approaches, researchers often use qualitative methods to examine symbols and rituals embedded within companies.

McShane and Von Glinow (2010) note that many companies formally codify company culture in the form of mission statements and value propositions. However, they also note that codification is not the primary driver or manifestation of company culture. Corporate culture is primarily exhibited and perpetuated through cultural artifacts.

O'Reilly et al. (1991) explain that artifacts are organizational rituals, phrases, and stories that reflect values shared across the company. Through these group experiences, artifacts are interwoven into the fabric of the company and provide employees with guidance on how to approach tasks and decisions. Employees are repeatedly exposed to these phrases and stories, increasing the impact of cultural artifacts on the decision-making process. The combination of formally codified culture, reinforced culture through shared cultural artifacts, and culture-driven ascension of employees through the ranks of the organization create a powerful input to thought, primarily driven by intra-organizational social construction. In fact, research in the management literature argues that corporate culture might be more unconscious social construct than concrete and conscious.

In the case of innovative corporate culture, recent articles in the popular press have provided insight into how companies cultivate and communicate these cultures within their organizations. Chima (2013), using the company “MailChimp” as a case study, suggests that managers should signal the value of innovation by telling employees to “Get Weird”. Deloitte explained that eBay strives to attract innovative employees and to retain them (Schory 2014). ZdNet, discussing GE Capital, explains that GE communicates the importance of innovation by scheduling time for innovation on Fridays and making this a priority (Dignan 2014). Thus, both academic research into cultivating

creative culture and anecdotal evidence available from the popular business press imply that companies use myriad ways to communicate cultural norms and values to their employees. Further, whatever method they choose to make these communications, companies see value in cultivating company culture.

2.4 Real Earnings Management

While a comprehensive review of the earnings management literature is beyond the scope of this manuscript, a review of relevant findings in the real earnings management (hereafter, REM) literature could be of use to the reader. REM has been defined as the strategic timing of investment, sales, expenditures, or financing decisions made to influence reported earnings (Degeorge, Patel, and Zeckhauser 1999). REM is often contrasted with accruals earnings management (hereafter, AEM), where management influences reporting earnings via manipulation of discretionary accruals (Schipper 1989). Cohen, Dey, and Lys (2008) note that, in the post-Sarbanes-Oxley period, managers are more likely to utilize REM strategies as opposed to AEM, as REM is perceived to be less likely to attract scrutiny. This can be concerning, as REM strategies often have cash flow implications, as opposed to AEM strategies, which usually only involve time-shifting of earnings without cash flow implication.

Roychowdhury (2006) argues that, even though REM strategies may help companies meet short-term earnings targets, these activities may reduce firm value in the long-run. As an example, the author presents the case of price discounts. If a firm provides aggressive price discounts to increase sales volumes to meet a short-term earnings target, customers may grow accustomed to these discounts and expect them in the future. In another example, inventory overproduction strategies may increase earnings

by shifting manufacturing overhead costs into inventory, but at the time, these strategies increase inventory storage costs and create inventory that must be sold in future periods. Following this logic, Roychowdhury (2006) uses archival methods to investigate patterns in cash flows from operations, discretionary expenses, and production costs for firms that are close the zero earnings benchmark. The author finds evidence to support his hypothesis that companies use real earnings management strategies that extend beyond reductions in discretionary expenses. In addition, Roychowdhury (2006) provides evidence that real earnings management decisions are non-optimal, as the presence of sophisticated investors appears to reduce this behavior.

More recently, research has emerged investigating perceptions of REM external to the organization. In a survey of practicing auditors, Commerford, Hermanson, Houston, and Peters (2014b) find that while auditors perceive AEM to be a more significant audit issue than REM, they acknowledge that REM is difficult to detect. In addition, surveyed auditors echo the sentiment of Cohen et al. (2008) surmising that the Sarbanes-Oxley Act has shifted earnings management strategies from AEM in favor of REM.

Commerford, Hermanson, Houston, and Peters (2014a) extend their survey work by conducting an experiment that investigates auditor response to real earnings management. The authors conduct a 1 x 3 between-subjects experiment using 52 audit partners, managers, and directors as participants. As the authors predict, REM causes auditors to perceive weaker management tone and exhibit greater professional skepticism via higher risk assessments and additional audit testing. These effects are exacerbated when management provides meeting earnings as the purpose for the spending decision.

The perception of management's tone is found to mediate the relationship between REM and risk assessment, implying that, when REM is present, perceptual changes of the firm drive changes in risk assessment.

Finally, Bailey (2014) conducts a 2 x 2 x 2 mixed-design experiment to investigate the perceived ethicality of an REM versus an AEM strategy. Bailey finds that ethicality assessments differ based on the earnings management strategy employed when the salience of an employee group is increased. The significant employee salience by earnings management strategy interaction found implies that, when managers view REM strategies as harmful to stakeholder groups, they recognize the ethical considerations of their decision. Interestingly, the author finds that, when employee groups were made salient and real earnings management was being considered, participants were more likely to use "business language" to justify engaging in REM behaviors.

Taken together, these findings indicate that management may choose to meet earnings benchmarks through engaging in REM strategies. This appears to be the case even when the ethicality of their decisions are made salient.

2.5 Construal Level Theory

Construal level theory, building on temporal construal theory, recognizes that individuals can only directly experience the "here and now" (Trope and Liberman 2010). For everything outside of the "here and now," we experience the world through abstract mental constructions known as construals. Using our egocentric selves as a reference point, construals allow us to transcend the limitations of only being able to experience events in our immediate reality. As events (or potential events) are construed closer or

further away from ourselves, these abstractions can guide decision behavior (Liberman and Trope 1998; Trope and Liberman 2003).

Liberman and Trope (1998) describe two levels of construals. Starting from the self as a reference point, lower-level construals are mental constructions of events that are closer, or more proximate, to the decision maker. Research in psychology has shown that lower-level construals are associated with concrete details of tasks, subordinate features of decision contexts, and “how” events occur. For example, a lower-level construal of reading might include a decision maker thinking about “turning the pages”. Higher-level construals are found to be more abstract and concerned with the superordinate characteristics of a decision context, as well as, with describing “why” events occur. The same reading task, framed with a high-level construal, may include a description of reading to “broaden my horizons.”

Psychological research has greatly expanded the application of construal level theory from initial “concrete versus abstract” and “how versus why” investigations to find construal level effects in many other contexts. For example, Chandran and Menon (2004) find that lower-level construals can be activated by framing health hazards as occurring every day versus every year (e.g., smoking kills 1,200 people per day versus 438,000 per year). The authors find every day framing makes risks appear more proximal and concrete than every year framing, resulting in higher perceptions of self-risk and intentions to exercise precautionary behavior. McCrea, Liberman, Trope, and Sherman (2008) find that because events that are further in the future tend to be represented more abstractly, lower-level construals lead to less procrastination, as a response request was

represented more concretely. The authors note that this effect did not depend on how important, attractive, or difficult the task was perceived to be.

Fujita, Trope, Liberman and Levin-Sagi (2006) examined the relationship between construal level and self-control. The authors found that activation of high-level construals led to higher levels of self-control when compared with activation lower-level construals. In addition, the authors found decreased preferences for immediate gratification, greater physical endurance, and less positive evaluations of harmful temptations. These results imply that construal-level may not only affect the attractiveness of positive choices, but may also reduce the appeal of negative choices as well.

Förster, Friedman, and Liberman (2004) found a relationship between construal level and creativity. By manipulating the time perspective presented to participants, the authors found that participants told to envision their lives one year in the future, as opposed to the next day, performed better on a series of insight tasks and had improved creative generation of abstract solutions. These results suggest that higher-level construals can enhance creativity. Interestingly, the authors also found that a distant time perspective led to reduced performance on an analytical problem solving task. This suggests that higher-level construals do not lead to higher performance on all tasks. Instead, they may help tasks that require abstract thought, but hinder tasks that are more concrete.

2.5.1 Construal Level Theory in Accounting

Recently, three studies in accounting have examined the use of construal level theory-based interventions in accounting contexts. Backof, Bamber, and Carpenter (2014)

find that financial statement auditors are more likely to allow aggressive financial reporting when accounting standards are less precise. However, the authors find that utilizing a construal level theory-based judgment framework reduced this behavior and led to less aggressive reporting. Also drawing on the tenets of construal level theory, Backof, Thayer, and Carpenter (2014) posit that presenting numerical information in a manner in which inferences about the data become more abstract may lead to a higher-level construal of the data. This may lead to more superordinate processing and consideration of the big picture impact of the decision choice. However, in the context of auditor evaluation of a complex estimate, the authors hypothesize that lower-level construal framing will actually lead auditors to assess aggressive estimates as less reasonable, based upon more detailed processing of the estimates' underlying financial information. Finally, Rasso (2014) examines the use of higher-level construal-based instructions for documentation and processing audit evidence when evaluating complex estimates. The author finds that documentation instructions that promote higher-level construals tend to lead auditors to think and act with more professional skepticism when compared to lower-level construal-based instructions or an absence of instruction.

2.6 Situated Inference Model

In order to utilize the findings in the construal level theory literature to design an intervention to affect judgment and decision making, it is important to understand the conditions under which decision makers' choices may be affected by construal. Loersch and Payne (2011) present the situated inference model, which fuses seemingly disparate findings into a unified theory to account for the effect of primes on perception, behavior, and motivation. Reviewing the priming literature, the authors argue that primes, including

construal primes, operate by inducing construct accessibility. In turn, construct accessibility can lead to misattribution. At this point, the misattribution is used to address the question that the decision maker faces. The authors posit, as supported by past psychological literature, that when primes are salient and serve as reasonable inputs to a decision process, misattribution likely will not occur. In these cases, a contrast effect may result, leading decision makers to react in an opposite manner.

2.7 Conclusion

In this chapter, I have reviewed the literature from accounting, psychology, economics, marketing, management, and other fields that is relevant to creativity, corporate culture, real earnings management, construal level theory, and the situated inference model. In the following chapter, I will use this research to build hypotheses and describe the experimental method I use to test those hypotheses. Results will be presented in the subsequent chapter.

CHAPTER 3

HYPOTHESES AND METHODOLOGY

3.1 Introduction

This chapter develops hypotheses and discusses the methods I used to test my hypotheses. The second section develops the hypotheses drawing on relevant theory. The third section discusses the experimental methods employed to test my hypotheses.

3.2 Development of Hypotheses

3.2.1 The Pervasiveness of Culture

Corporate culture, a system of norms and values within an organization, has been a prominent area of research in the management literature and a topic in the popular business press for at least five decades. In general, academics have taken a descriptive approach to the topic, using both quantitative and qualitative research to isolate indicators of different cultures across companies and to group these indicators into descriptors of types of cultures (Smircich 1983; Miles, Snow, Meyer, and Coleman 1978; Van den Steen 2010). In contrast, the business press has taken more prescriptive approaches (Chima 2013). These writers focus on using culture to attain organizational goals and on methods to build desirable company cultures. However, while academics and the press differ in their approaches to writing about corporate culture, both agree that strong corporate culture permeates life within the organization.

Research in the management literature describes the mechanism of how these strong cultures affect organizations. Schein (2010) notes culture determines who ascends through the company's ranks into leadership positions, while those in leadership roles simultaneously create and manage culture. McShane and Von Glinow (2010) note that

many companies formally codify organizational culture into mission statements or value propositions. However, they also explain that codification is not the principal driver of company culture. Corporate culture is primarily exhibited and perpetuated through cultural artifacts.

Artifacts are organizational rituals, phrases, and stories that reflect values shared across the company. The shared nature of these narratives reminds employees of how “things should be done” and builds expectations for socially acceptable approaches to work. Through these group experiences, artifacts are interwoven into the fabric of the company and provide employees with ongoing guidance on how to approach tasks and decisions. Employees are repeatedly exposed to these phrases and stories, increasing the impact of cultural artifacts on the decision-making process. All of this suggests that a corporate culture’s effect on behavior is a product of cultural indicators working in tandem. However, the aggregate effect of cultural artifacts on decision making may not be initially apparent; research in the management literature argues that the extent of corporate culture might be more unconscious social construct than concrete and conscious (O'Reilly et al. 1991).

3.2.2 Culture and Innovation

While there are considerable differences between characteristics of corporate culture, there is little debate as to which characteristic is most desirable in business today. A 2010 survey of CEOs conducted by IBM (2010), identified creativity/innovation as the most desirable leadership quality for executives, even surpassing traits such as integrity and fairness. Further, the survey participants felt that “building innovative culture” was the most effective way to lead a creative organization. As the benefits of creative thought

move to the forefront, organizational leadership has increasingly attempted to focus on cultivating innovation.

O'Reilly et al. (1991) were the first to recognize a company's focus on innovation as a distinct characteristic of organizational culture. In this work, the authors identified correlations between innovative culture and underlying employee attitudes. They found that innovative cultures are positively correlated with employees who embrace change and possess high self-confidence. This combination of traits implies that creative cultures may have an increased ability to respond with agility to a fast-paced business environment. This is certainly a desirable quality in today's competitive landscape. The authors also found employees with preferences for innovative company culture tend to enjoy working in firms that strive to be aggressive in the marketplace. This can also be beneficial to firms. For example, employee risk-taking can lead to breakthroughs in product development. In addition, autonomy may reduce the need for organizational bureaucracy, which can lead to market agility. Further, when employees enjoy these behaviors, it is much easier to encourage them to continue acting in this manner.

However, even as there are obvious benefits to innovative company culture, there are potential drawbacks as well. Individuals who desire innovative corporate culture enjoy workplaces that are high in risk-taking and experimentation and appreciate environments that are less rule-oriented and less cautious (O'Reilly et al. 1991). This implies that individuals in innovative organizations prefer some level of risk in day-to-day decision making. To the extent that preferences for risk extend from tasks where some level of risk may be welcomed, such as product development or research, to tasks

where risks should be minimized, such as customer safety or financial reporting, innovative company culture could lead to suboptimal outcomes.

In addition to correlational findings that employees in innovative cultures may have elevated preferences for risk, recent psychological research has found a link between creativity and self-serving behavior. Gino and Ariely (2012) find that individuals primed to think creatively tend to cheat more on laboratory tasks, even after controlling for individual differences in creative personalities. In addition, Gino and Wiltermuth (2014) find that the association works in reverse. That is, dishonesty can lead to greater creativity. Moving in either direction, the authors find that divergent thinking processes (i.e., the feeling of being unconstrained by rules) serve to link creativity and dishonesty. As individuals engage in divergent thinking, they are more easily able to generate justifications for these undesirable behaviors.

Much like a preference for elevated risk, divergent thinking could have both desired and undesired consequences, as these cognitive processes may be more or less suited for different work tasks. For example, a manager may spend time working on developing product strategy, planning for future periods, and reporting past results. While employees may bring divergent thinking processes to all of these tasks, the outcomes could be quite different. For example, telling a manager to “think outside the box” when developing new strategies for product development could limit self-censorship and produce a positive outcome. However, this same mindset carried over to a spending or expense approval context could result in earnings management, as the decision-maker has an increased ability to justify self-serving behavior compounded with an elevated affinity for risk.

In fact, financial accounting scholars have identified that management may choose to manipulate earnings through strategic timing of investing, operating, and financing decisions even when these decisions are suboptimal to the long-term viability of the firm (Cohen, Dey, and Lys 2008). This is known as real earnings management. Cohen et al. (2008) report that, in the post Sarbanes-Oxley era, managers are more likely to engage in earnings management using REM strategies as opposed to traditional accrual-based earnings management. Further, Hunton, Libby, and Mazza (2006) argue that, as financial reporting requirements require more transparency, earnings management will occur using less visible methods. While REM activities may vary, financial statement auditors have noted that a common management strategy is to make operating decisions that shift costs to subsequent periods in order to reduce current period expenses. For example, managers may halt advertising or research and development activities in the fourth quarter to meet an annual earnings target (Commerford, Hermanson, Houston, and Peters 2014b).

While the operating decisions that managers make when participating in real earnings management may be quite diverse, the tradeoffs that managers weigh when considering these decisions are often similar. For example, choosing to defer research and development spending to meet an EPS target, ending an advertising campaign early to make a personal bonus, or delaying planned maintenance to meet an expense target present the same choice set. On one hand, managers can choose a sure short-run detriment in order to increase the probability of a long-run benefit. However, on the other hand, managers may prefer to experience a sure short-run benefit for the cost of increased probability of a long-run detriment. In both cases, the current year component of the

choice is known to the manager (i.e., the current year earnings and bonus impact), but there is uncertainty regarding the long-run portion.

While the tradeoffs that managers consider may be the same across different types of companies, the amount of risk that managers are willing to bear may not be. When innovative thinking is a pervasive component of a company's culture, I expect this focus on innovation will increase a decision maker's acceptable level of risk. I expect that acceptable risk increases not only where it is intended to, but that it will also "carryover" to other work tasks where this mindset is not desired (Wyer and Xu 2010). As risk becomes more palatable, I predict that the attractiveness of personal incentives realized through REM choices will increase. Said differently, to the extent that corporate culture invokes a mindset that suggests higher risk behavior is acceptable, I predict that managers in creative cultures will engage in higher levels of self-serving real earnings management behaviors. This leads to the following hypothesis:

H1: In the absence of an intervention, managers immersed in a more innovative company culture will engage in higher levels of real earnings management behavior than managers immersed in a less innovative company culture.

3.2.3 Construals and Creativity

While I predict that innovative company culture will lead to higher levels of real earnings management behavior, recommending that firms simply curb innovative culture is not practical; the benefits of innovation are too great. Accordingly, interventions that reduce REM behavior without changing the culture of the firm could be beneficial. I propose that this may be accomplished by utilizing construal level theory to reduce self-interested behavior.

Construal level theory of psychological distance argues that individuals are only able to directly experience what is happening to themselves in the here and now (Trope and Liberman 2010). Accordingly, events removed from this very narrow realm are experienced indirectly. Research in psychology proposes that we use mental construction to experience these episodes from a perspective removed from ourselves (Liberman and Trope 2008; Trope and Liberman 2010). These mental constructions, known as construals, guide our behaviors and relate to diverse decision areas such as prediction, evaluation of counterfactual alternatives, perspective taking, and hypotheticality. Construals can be more or less abstract and, thus, more distal or proximate to the self. Trope and Liberman (2010) refer to construals that are less abstract, and therefore proximate to the self, as lower-level construals and those that are more abstract, and therefore distal to the self, as higher-level construals.

If executive management wishes to curb managers' REM behavior in innovative cultures, one option may be to use a lower-level construal based intervention. As lower-level construals move decision makers away from an egocentric reference point and bring to mind the concrete and proximal components of a choice, this construal intervention may increase the salience of the people within the organization and lead managers to consider the effects of their actions on these closely-related parties. In addition, prior research in psychology has shown that lower-level construals are likely to increase thoughts of *how* a decision will be implemented (Trope and Liberman 2010) and to highlight downside risk (Chandran and Menon 2004). As a consequence, I expect that decision makers will focus less on how their decision benefits themselves and more on how their choice could affect stakeholders close to the company, such as employees or

customers, and the concrete day-to-day, or near-future, operations of the company. This implies that presenting managers with a lower-level construal intervention will reduce earnings management.

On the other hand, even though managers may be able to see the more immediate downsides to engaging in REM, they may not be able to see the longer-term “big-picture” consequences of their behavior (Rogers and Bazerman 2010). However, research in psychology suggests an intervention based on higher-level construal may be able to alleviate the some of the potential shortcomings of lower-level construal interventions. Prior research has demonstrated that higher-level construals focus decision makers on the “big-picture”, long-term consequences of their decisions (Rogers and Bazerman 2008; Trope and Liberman 2010). In addition, Fujita, Trope, Liberman, and Levin-Sagi (2006) show that higher-level construals, as compared to lower-level construals, lead to more self-control and decreased preferences for immediate over delayed outcomes. Further, the authors find that participants give less positive evaluations of temptations that undermine self-control, implying that self-interested behavior may be relatively less appealing. If a higher-level construal of managers’ decision choices emphasizes the long-term impact of engaging in REM *and* makes incentives for these behaviors less attractive, the manager may be more likely to perceive both less benefit *and* greater detriment to justifying these behaviors, even though creative culture may enhance justification ability.

Accordingly, I expect the heightened levels of REM that I predict to occur in more innovative company cultures to be mitigated through construal level theory-based interventions. More specifically, I predict that in a more innovative company culture, a lower-level construal intervention will reduce REM behaviors when compared with an

absence of intervention. However, based on the discussion above, I expect that a higher-level construal intervention will reduce REM behavior to the greatest extent. This implies the following hypothesis:

H2: Managers in more innovative corporate cultures will exhibit the most real earnings management (REM) behavior when an operating decision is absent a construal level intervention, less REM behavior when a lower-level construal is emphasized, and the least REM behavior when a higher-level construal is emphasized.

While I make this prediction of the effect of construals in more innovative cultures, I do not anticipate the same effect in less innovative cultures. The levels of REM behavior that exist in less innovative cultures occur in the context of a culture where *less* risk is preferred. The efficacy of construal framing interventions in curbing REM behaviors is predicated on the expectation that cultural values, such as an increased appetite for risk, are relatively malleable and, therefore, may be affected by my proposed interventions (Goncalo and Staw 2006).² I expect that the relatively low-levels of REM that exist in the presence of organizational attitudes of relative risk aversion do not possess that malleability. Accordingly, I do not hypothesize an effect of construal level intervention in less innovative company cultures.

² On its surface, the malleability of cultural values would appear to imply that construal level theory-based interventions may curb self-interested behavior, but at the expense of creativity within the organization. However, it is important to note that research in psychology suggests that this would not be the case. Gardner, Gabriel, and Lee (1999) describe a phenomenon known as “cultural frame switching” where individuals that hold multiple cultural identities may have certain aspects of these identities activated through priming interventions. Because company culture is ever present, the tenets of cultural frame switching would imply that when employees return to a work task where creativity is helpful, the situation at hand, combined with the presence of cultural symbolism, would lead to reactivation of creative primes.

3.3 Method

3.3.1 Participants

The participants in this study were 139 individuals with an average of 5.8 years of management experience. Participants were recruited using Amazon Mechanical Turk (AMT).³ On average, participants completed the study in 29.91 minutes and earned \$4.20 (\$3.00 in base pay and \$1.20 in bonus) for their participation. This implies a wage of approximately \$8.42 per hour. AMT has become a popular source of participants for studies in the social sciences, as data is inexpensive, easily obtainable, and has been shown to be representative of traditional participant pools (Krische 2014; Rennekamp 2012; Paolacci, Chandler, and Ipeirotis 2010). In addition, recent research in accounting has shown that online workers exert at least as much effort during experimental tasks as traditional participants (Farrell, Grenier, and Leiby 2014).

Even though research has shown that data from AMT is representative of traditional participant pools and workers exert sufficient effort, this does not mean that participants recruited will possess the task-specific knowledge required to make the management decision presented in this study. In order to ensure that participants have the required task-specific knowledge for my experiment, I prescreened potential participants to ensure that they have held or currently hold a management position and have experience making spending decisions in a company or organization. Candidate participants who did not meet these criteria were not included in the study.

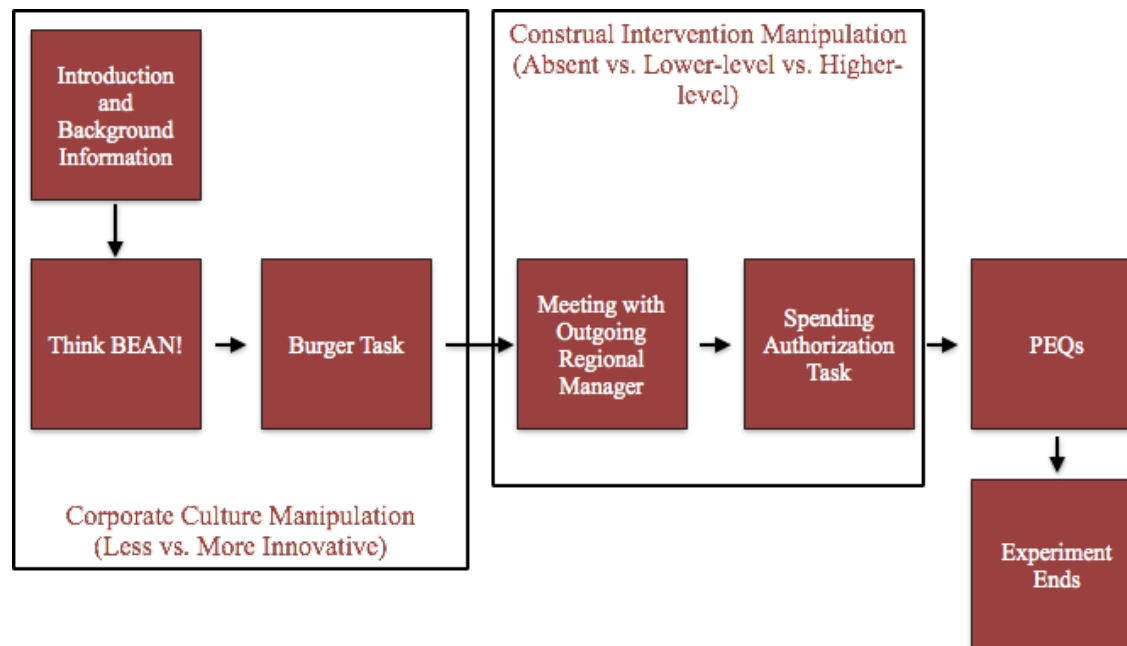
³The final participant count for the study was 137, as 1 participant was excluded for having a duplicate IP address and 1 participant was excluded for copying her experimental task submission from an internet cooking website. This implies that the latter case was not exposed to the innovative culture manipulation and should be dropped from the study. Inferences are unaffected by the inclusion or exclusion of these participants.

3.3.2 Experimental Simulation

Participants were provided with a computerized simulation of a series of managerial tasks. A diagram of the experimental design is included as Figure 3.1. In the case, participants navigated a day as a regional manager at *Bean's Burgers*, a publicly traded fast-casual restaurant chain. After reading background information about the firm, participants took part in a company-wide product design initiative being held to celebrate the company's 25th anniversary with a special burger each month. To kick off the promotion, all employees were asked to make a submission for the first month's burger. For this task, participants were asked to think about, and design, the burger that the company's founder, Aaron Beans, would most want to see on this special menu. The purpose of this task was three-fold: (1) to reinforce the manipulation of company culture through rumination, (2) to include a work task that requires creativity in both conditions, as I am interested in the effects of more or less innovative cultures, and not the effect of the presence or absence of creative work (which is prevalent to some degree in all organizations), and (3) to provide a work task that could induce a mindset that could spill over to other tasks.

The second experimental task involved a decision regarding repairs and maintenance spending. In this part of the simulation, participants, who were newly promoted, met with the outgoing regional manager to discuss the current state of the region as they moved into their new role. As part of this vignette, participants were informed that many of the region's restaurants were part of the company's first wave of expansion across the country. These restaurants, being older, had outdated kitchen

Figure 3.1: Experimental Design



equipment that was budgeted for updating by the end of the year. The outgoing manager also told participants that he had noticed that the refrigeration units in some of these restaurants are only intermittently keeping food at the proper temperature. Further, even though managers throw food away when this is discovered, if unsafe food is inadvertently served to customers and customers were to become ill, the impact on the company could be severe, as the effect of bad press could be substantial. In addition, participants were told that even though the repairs are budgeted, if the entire budget is spent on kitchen updates the company will miss its earnings per share (EPS) target. Participants learn that even in a tough year for the industry, the company's competitors have figured out a way to achieve their EPS target. Finally, participants were presented with the construal intervention (if applicable) as they were asked to choose a level of spending on kitchen updates for the current year. The primary dependent variable is the amount of spending on kitchen repairs deferred into the following year.

To operationalize the incentive to meet or exceed the company's EPS target in the current and subsequent year, participants were paid two bonuses. The first bonus was for meeting and/or exceeding the current year EPS target. This bonus, paid within 24 hours of the study, was a known amount that changed depending on the level of current year spending. As current year spending was deferred into the subsequent year, the current year portion of the bonus increased and the subsequent year portion was reduced. The second bonus, paid 10 business days after the conclusion of the study, related to achieving the EPS target in the subsequent year. This bonus increased with current year spending and was presented as a range. The amount paid for the "next year" bonus was a random draw from a uniform distribution bounded by the range disclosed to participants.

By operationalizing the subsequent year bonus as a range and delaying payment, I was able to represent the uncertainty inherent in foregoing REM behaviors for future benefits and the delayed gratification that accompanies these decisions.

As participants considered different spending amounts, the simulation screen updated with the effect of their decision on the current year's EPS and bonus and the range of the following year's EPS and bonus. Additionally, to emphasize the downside risk of engaging in REM behavior, participants were informed that, if an outbreak of food-borne illness occurred, they would not be paid any bonus. As participants considered different spending levels, the risk of food-borne illness was updated on the simulation screen (similar to the effect of spending on EPS and participants' bonuses). The risk of food-borne illness increased as participants deferred spending. Risk estimates ranged from 0.1 percent, if participants engaged in zero REM, to 15 percent, if participants deferred the entire budgeted amount. A screenshot of this screen in the *construal intervention absent* condition is included as Figure 3.2. The computer simulation was programmed such that participants would not be paid a bonus if food-borne illness occurred. The probabilistic component of the occurrence of food-borne illness was operationalized via a draw from a uniform distribution.

Finally, participants answered post-experimental questions, were told the amount and timing of their bonus payments, and were thanked for their participation. Post-experimental questions were designed to assess the suitability of my participant pool, collect general demographics, and provide information as to the underlying cognitive processes underlying participant decisions. I asked participants to respond to questions regarding management and spending authorization experience, age, and gender.

Figure 3.2: Spending Decision Screenshot



Additionally, I measured perceptions of company innovation, how strongly participants felt they *should* spend as originally budgeted versus how strongly they *wanted to* spend as budgeted, and participants' perceptions of the risk of food borne illness. Lastly, I provided participants with free response boxes to explain how they came to their spending authorization decision and to list the parties they considered in their decision.

3.3.3 Manipulations

The two independent variables (innovative company culture and construal intervention) were manipulated between participants using a 2x3 complete factorial design. I manipulated innovative company culture at two levels: more and less. As discussed earlier, company culture is a pervasive system of norms and values that is tightly woven into the identity of the company (O'Reilly et al. 1991). Thus, it is important that participants feel immersed in the company's culture. To allow participants to more easily internalize this manipulation, I presented a series of related cultural artifacts and used cultural phrasing to signal the company's attitude towards innovation and the pervasiveness of the culture (McShane and Von Glinow 2010). Additionally, I introduced a company slogan that is a prominent part of company vernacular.

As participants read the company's background information, they were introduced to "Think BEAN!", the company's guiding slogan. While the acronym was held constant between conditions, the components (i.e., the individual letters) of the acronym were manipulated between conditions, changing the meaning of the phrase. Participants learned that, since the founding of the company, the "Think BEAN!" philosophy and way of thinking has been the secret to the company's success. In order to reinforce the

company's culture, participants were reminded at various times throughout the simulation to "Think BEAN!" Further, this slogan was embossed into the computer wallpaper, making the acronym visible throughout the study. This portion of the overall manipulation follows research in the management literature showing that patterns of thinking that persist across generations of a company are indicative of a strong company culture (O'Reilly et al. 1991) and that shared meaning demonstrates strong company culture (Smircich and Morgan 1982; Van den Steen 2010).

In the less innovative culture condition, background information explained how the company credits its success to a more traditional company culture. The background narrative, entitled "Our Story", explained that *Bean's Burgers* values "time-honored traditions", "proven, tried-and-true solutions", and a "Why reinvent the wheel?" mindset. These phrases represent a viable approach to business strategy and culture, while still demonstrating a commitment to lower innovation. In this condition, the "Think BEAN!" acronym stood for "Beautiful Burgers, Executing Elegance, Ageless Experiences, and Nostalgic Interactions", suggesting more traditional or classic approaches to problem solving are desired. Table 3.1 Panel A presents the text of "Think BEAN!" for the less innovative condition.

In the more innovative culture condition, as participants read through the background narrative, they learned how the company applies innovation to all facets of the organization. In this condition, the background narrative was entitled, "From Sprout to Stalk: How We Grew Up" and new employees were referred to as "sprouts". The narrative explained that the company prefers "cutting-edge solutions", "innovative and creative solutions", and a "think outside-the-box" mindset. In this condition, "Think

Table 3.1: Think BEAN! Manipulation Wording

Panel A: Less Innovative Culture Condition

Think BEAN!

Our founder, Aaron Bean, credits our success to the "Think BEAN!" philosophy and its effect on the company's culture. By living the "Think BEAN!" mindset at work, we always know what to do. Think BEAN! is an acronym that stands for beautiful *burgers*, executing *elegance*, *ageless* experiences, and *nostalgic* interactions.

Beautiful BURGERS

Like the Mona Lisa, a Bean's Burger is a work of conventional beauty. Our customers love that we stick to tradition. Our burgers stand for themselves. We don't need fancy condiments or new-fangled gimmicks to make a great burger! To be successful, we just need to do things the way we've been doing them for the past 25 years. Over time, we've learned that traditional and consistent approaches are the keys to success.

Executing ELEGANCE

When thinking about hamburgers, most people don't think about elegance. However, we think that adding a bit of simple elegance to a night out, whatever the cuisine, keeps customers coming back. This way of thinking extends beyond our restaurants. As a Bean's manager, you should attack problems with elegantly simple, tried-and-true solutions because, even though an idea may seem simple at first, it just might work.

AGELESS Experiences

The ritual of enjoying a meal out with family and friends has been an affordable luxury in the best and worst of times. Accordingly, we strive to preserve the ageless nature of the family meal. Our advertising often focuses on tradition and the timeless joy of getting together with loved ones. This focus on tradition carries itself to the corporate office, as our managers prefer strategies that have stood the test of time.

NOSTALGIC Interactions

Customer interactions are the most important part of Bean's business. Because of this, we focus on cultivating perfect interactions between diners and restaurant personnel. We believe that the perfect interaction is one that inspires a patron to reminisce back to the best meal they've ever had and to compare it to their meal at Bean's. By providing interactions customers can reflect back on, Bean's can make dining nostalgic. Employees take this same approach when solving problems. As management, we challenge employees to make comparisons between their proposed solution to an issue and other well-established solutions that are proven to have worked in the past. By reflecting back on our past successes, we believe that we can keep making great decisions far into the future.

Table 3.1: Think BEAN! Manipulation Wording

Panel B: More Innovative Culture Condition

Think BEAN!

Our founder, Aaron Bean, credits our success to the "Think BEAN!" philosophy and its effect on the company's culture. By living the "Think BEAN!" mindset at work, we always know what to do. Think BEAN! is an acronym that stands for beautiful *burgers*, exemplifying *eccentricity*, *adventurous* experiences, and *novel* interactions.

Beautiful BURGERS

Like the creation of a modern sculptor, a Bean's Burger is a work of unconventional beauty. People come to our restaurants for the creative and unexpected -- and we love to deliver. We leave no stone unturned imagining ingenious new burgers for our customers to chow down on. We're 25 years young and we don't see any reason to grow up now. We embrace inventiveness, because we've learned that creative and innovative approaches are the keys to success.

Exemplifying ECCENTRICITY

When thinking about hamburgers, most people don't think about eccentricity. However, we think that adding a bit of unpredictability to a night out, whatever the cuisine, keeps customers coming back. This way of thinking extends beyond our restaurants. As a Bean's manager, you should attack problems by thinking outside the box because, even though an idea may seem crazy at first, it just might work.

ADVENTUROUS Experiences

The ritual of enjoying a meal out with family and friends has been an affordable luxury in the best and worst of times. Accordingly, we strive to incorporate a little adventure into the family meal. Our advertising often focuses on the fun that accompanies trying something new with loved ones. This focus on adventure carries itself to the corporate office, as our managers prefer strategies that capture the company's sense of adventure.

NOVEL Interactions

Customer interactions are the most important part of Bean's business. Because of this, we focus on cultivating perfect interactions between diners and restaurant personnel. We believe that the perfect interaction is one that is uniquely memorable. By providing new and innovative interactions, Bean's can make dining novel. We take this same approach to solving problems. As management, we challenge our employees to find new ways to attack issues. Just because a solution has worked in the past, that doesn't mean there isn't room for improvement. By focusing on being novel, we believe that we can keep innovating far into the future.

BEAN!” stood for “Beautiful Burgers, Exemplifying Eccentricity, Adventurous Experiences, and Novel Interactions”, suggesting that workers adopt a more creative approach to problem solving. Table 3.1 Panel B presents the text of “Think BEAN!” for the more innovative condition.

Next, participants were given an opportunity to ruminate on the company culture as they chose a burger to submit to the company’s 25th anniversary initiative. To reflect incentive alignment with the manipulated company culture, participants received a monetary bonus for the submissions judged to be most in accordance with the manipulated culture. The top 10 percent of submissions “judged to be most in-line with the Think BEAN! philosophy” received a bonus of \$1.00. Representative burger submissions are included in Table 3.2.

The second independent variable, construal intervention, was manipulated at three levels: construal intervention absent, lower-level construal intervention, and higher-level construal intervention. The manipulation was presented in the meeting with the outgoing regional manager and the spending authorization task. While all participants were told, “your decision is important”, individuals in the lower and higher-level construal conditions also received a two-part construal intervention manipulation. Following research in consumer psychology that has shown that “every day” framing tends to activate lower-level construals, but “longer-term” framing tends to activate higher-level construals (Chandran and Menon 2004), participants were told that their decision would either affect the company on a daily or ongoing basis. In addition, while all participants learned that the updates would occur in all of the old-style kitchens, the lower-level and higher-level construal intervention conditions emphasized that participants’ decisions

Table 3.2: Burger Submission Examples

Panel A: More Innovative Culture Condition

Burger Name: Hang Ten

Ingredients:

lean ground beef seasoned with Asian fish sauce,
grilled shrimp,
fried calamari,
one oyster
curly leaf lettuce
grilled pineapple
dollop of tartar sauce
bun with dusting of stone ground flour
avocado slice

Preparation / Serving Instructions:

[The] hang ten has ten ingredients and is served with a surfboard shaped avocado slice. Curly lettuce represents waves and dusted bun represents sand.

Burger Name: Billy Beane Burger

Ingredients:

Ground Goat Meat
1 packet onion soup mix
1 teaspoon of salt, pepper,
all spice
onion powder
quarter can of ground chick peas and ground black beans
half a package of curry
One 1/3 Pound Burger

Preparation / Serving Instructions:

Ground 1/3 goat meat, black bean and chickpeas and throw in bowl. Add all spices except curry into bowl of ground meat, peas and beans. Form patty out of mixture. Cook the curry down in the pan then add burger and flip liberally.

Table 3.2: Burger Submission Examples

Panel B: Less Innovative Culture Condition

Burger Name: The Standard Hamburger

Ingredients:

Hamburger

Tomato

Lettuce

Onion

Mayonnaise

Preparation / Serving Instructions:

Cook medium. Place lettuce, slice of ripe tomato, slice of onion and cover with mayonnaise.

Burger Name: Good Old American Burger

Ingredients:

Hamburger

Bun

Mustard

Ketchup

French Fries

Preparation / Serving Instructions:

Classically prepared burger, on a white bread bun, served with mustard and ketchup, with perfectly prepared French fries on the side.

would be implemented in “each and every kitchen in every old-style restaurant” or “put into action across the region”, respectively. This portion of the manipulation is crafted after research that shows that attending to the more concrete details of a decision activates lower-level construals, where more abstract language is more likely to activate higher-level construals. Manipulation wording is shown in Table 3.3.

Table 3.3: Construal Level Theory-based Manipulation Wording

Intervention Absent Condition:

“Your decisions are impactful.”
 “Your decisions are important.”
 “Your decisions will be put into action.”

Lower-level construal-based Intervention Condition:

“Your decisions are impactful at the individual restaurant level and will affect your restaurants each and every day.”
 “Your decisions are important and have an effect in each store on a daily basis.”
 “Your decisions will be put into action in each and every old-style kitchen.”

Lower-level construal-based Intervention Condition:

“Your decisions are impactful region-wide and affect the company on an ongoing basis.”
 “Your decisions are important and have an effect across the region on an ongoing basis.”
 “Your decisions will be put into action across the whole region.”

CHAPTER 4

DATA ANALYSIS

4.1 Introduction

In this chapter, I provide the results of manipulation checks, hypothesis tests, and additional analyses. To test H1, I analyze participants' responses using a planned contrast conducted within a 3x2 analysis of variance with *construal intervention* and *innovative corporate culture* as the independent variables. Next, to test H2, I conduct a Jonckheere-Terpstra test for ordered cell means within the *more innovative* level of the *corporate culture* condition. Finally, I present additional analyses of process measures collected during the study.

4.2 Manipulation Checks

4.2.1 Innovative Corporate Culture

As a manipulation check to assess how participants viewed the company culture, all participants responded to a question that asked how innovative they perceived the company to be. On a 0-100 scale anchored at “Not at all” and “Extremely”, participants in the more innovative condition viewed the company to be significantly more innovative than participants in the less innovative condition (means = 77.1 versus 59.5, $p < 0.001$, one-tailed).⁴

To assess how well participants internalized the more or less innovative company culture manipulation, participant burger submissions were rated for creativity by six PhD student coders following the card-shuffle method used by Kachelmeier, Reichart, and

⁴ All statistical analyses herein were performed using the R language and environment for statistical computing (R Development Core Team 2015).

Williamson (2008). This method has coders sort burger submissions into 10 piles, with the pile designated “10” holding the most creative submissions, the pile designated “1” holding the least creative submissions, and the piles in between being more or less creative as they approach pile 10 or 1, respectively. Once sorting is complete, each submission is assigned the value of the pile that it was sorted into and the stack of submissions is shuffled for the next rater. Cronbach’s alpha for these raters was 0.87 implying adequate agreement between raters.⁵ Mean creativity ratings for the more innovative and less innovative conditions were 5.355 versus 3.792, respectively. This difference is highly significant ($t = -5.037, p < 0.001$, one-tailed, untabulated). This implies that participants effectively internalized the company culture manipulation.

4.2.2 Construal Level Theory-based Intervention

To assess the effectiveness of the construal level theory manipulation, free responses to a question asking participants to describe how they came to their decision were coded. Coding followed the procedure used by Liberman and Trope (1998). This technique uses coders to examine the syntactical structure of open-ended participant responses. By classifying the structure of the response, researchers can gain insight into the construal level activated at the time of the response. Liberman and Trope (1998) demonstrate that when higher-level construals are activated participants are likely to describe activities using a *description by activity* form. For example, a *description by activity* description of “reading a book” could be “broadening my horizons by reading”. On the other hand, when lower-level construals are activated, participants are more likely to respond using an *activity by description* syntactical form. Using the book-reading

⁵ This is commensurate with Cronbach’s alpha reported in Kachelmeier, Reichart, and Williamson (2008) of 0.86.

example, a lower-level construal response could be, “I read a book by flipping pages”.

Following this coding scheme, decision explanations were coded “1” when the response was identified as being a high-level construal structure (*description by activity*) and coded as “0” when the response was identified as being a low-level construal structure (*activity by description*). Pearson’s chi-square test reveals that this difference is significant and in the predicted direction ($\chi^2 = 2.779$, $p = 0.047$, one-tailed, untabulated). This suggests that the manipulation of construal level was successful.

4.3 Tests of Hypotheses

4.3.1 Introduction

In this section, I present tests of my hypotheses. My hypotheses predict cell differences within a two-independent variable (*innovative company culture* and *construal level theory intervention*), fully-crossed between-participants design. While I conduct the overall analysis of variance procedure and present these results, I test H1 using a planned contrast and H2 using a Jonckheere-Terpstra test. Where I have directional predictions, tests are one-tailed and are two-tailed otherwise.

4.3.2 Test of H1

Hypothesis 1 predicts that, absent an intervention, managers in more innovative company cultures will engage in higher levels of REM behaviors than managers in less innovative company cultures. I use a planned contrast to test this cell mean comparison prediction, with weights of +1 for the more innovative/construal intervention absent condition, -1 for the less innovative/construal intervention absent condition, and 0 for all other conditions. Table 1 includes statistical results and analyses. As shown in Table 4.1, Panel A, mean deferred spending is \$1,754,997 versus \$1,071,420 in the more

innovation/construal intervention absent condition and the less innovation/construal intervention absent condition, respectively. This difference is significant ($t = 2.24, p = 0.027$, one-tailed), therefore H1 is supported.⁶ This implies that, absent intervention, more innovative company cultures can result in higher levels of real earnings management behaviors, and suggests the existence of a detrimental unintended consequence of creative corporate culture.

4.3.3 Test of H2

My second hypothesis tests the efficacy of Construal Level Theory-based interventions to reduce the REM behavior demonstrated in the *construal intervention absent* condition. As noted previously, I predict a specific order of means within the levels of the more innovative culture condition. That is, I predict that the highest level of REM behavior will occur absent intervention, the least will occur in the presence of a higher-level construal intervention, and the use of a lower-level construal intervention will result in a level of REM in between the two. The means for these conditions were \$1,754,997, \$771,905, and \$1,133,988, respectively. As shown in Table 4.1 Panel C, a Jonckheere-Terpstra Test confirms the predicted ordering of construal level interventions in more innovative company cultures ($JT = 541.5, p = 0.034$), supporting H2.

⁶ Levene's test for homogeneity of variance indicates that the lack of heteroskedasticity assumed by the ANOVA procedure is not met with these data ($F = 2.544, p = 0.031$, one-tailed). To assess the impact of this assumption violation on inference, I reconducted all hypothesis testing and additional analysis using a linear model with a Heteroskedasticity-consistent covariance matrix (White 1980). In addition, I performed a Freeman-Tukey (1950) transformation, of the form $\sqrt{x + 1} + \sqrt{x}$, designed to equate variances across cells and reexamined both the overall ANOVA and planned contrasts. In both cases, results were qualitatively similar to the results presented in the text and inferences remain unchanged.

Table 4.1: The Effect of Innovative Company Culture and Construal Intervention on Real Earnings Management**Panel A: Mean (standard deviation) budgeted repairs spending deferred into the next year (dollars)**

	Construal Intervention Absent	Lower-level Construal	Higher-Level Construal	Row Means (SD) [<i>n</i>]
Less Innovative Culture	Cell 1	Cell 2	Cell 3	
Mean	1,071,420	899,002	1,401,890	1,114,317
(SD)	(937,066)	(709,199)	(1,144,098)	(947,272)
[<i>n</i>]	[22]	[25]	[22]	[69]
More Innovative Culture	Cell 4	Cell 5	Cell 6	
Mean	1,754,997	1,133,988	771,905	1,221,566
(SD)	(1,281,729)	(1,164,124)	(825,239)	(1,165,085)
[<i>n</i>]	[23]	[22]	[23]	[68]
Column Means	1,420,804	1,008,996	1,079,898	1,167,550
(SD)	(1,166,156)	(946,117)	(1,032,795)	(1,058,438)
[<i>n</i>]	[45]	[47]	[45]	[137]

Panel B: ANOVA results

Source	df	F-statistic	<i>p</i> -value
Company Culture	1	0.30	0.584
Construal Intervention	1	1.94	0.148
Company Culture x Construal Intervention	2	4.78	0.009
Error	131		

Panel C: Tests of Hypotheses

Test	Test Statistic	<i>p</i> -value ^a
H1: Deferred spending within the intervention absent condition: More innovative culture > Less innovative culture	2.24	0.027
H2: Deferred spending within the more innovative culture condition: Construal intervention absent > Lower-level construal > Higher level construal	541.5	0.034

^a All hypotheses are tested within the ANOVA. Given the directional expectations suggested by my theory and hypotheses, these tests are one-tailed. H1 is tested with a planned contrast using weights of +1 for the intervention absent/more innovative culture condition, -1 for the intervention absent/less innovative culture condition, and 0 for all other cells. H2 is tested using a Jonckheere-Terpstra test for ordered cell means.

Dependent variable: *Budgeted repairs spending deferred into the next year*. Participants made spending decisions for the current year ranging from \$0 to \$3,500,000, with the remainder of the \$3,500,000 being deferred to the next year.

Independent Variables: *Company Culture* is manipulated as participants' immersion in a more or less innovative company culture. *Construal Intervention* manipulated whether participants received (1) no intervention, (2) a lower-level construal-based intervention, or (3) a higher-level construal-based intervention.

I supplement my test of H2 by conducting pairwise contrasts between the levels of the construal intervention conditions within the more innovative culture condition. These tests are exhibited in Table 4.2. As I predict, REM behavior is significantly reduced from the *construal intervention absent* condition when using a lower-level construal intervention ($t = -2.032, p = 0.022$, one-tailed) and a higher-level construal intervention ($t = -3.253, p = 0.001$, one-tailed). Also, while not statistically significant at conventional levels, mean deferred spending for the higher-level construal intervention is directionally consistent (lower) when compared to the lower-level construal intervention ($t = -1.185, p = 0.119$, one-tailed). These results, taken with my primary test of H2, provide evidence consistent with my prediction that lower-level construal interventions can reduce REM behaviors in creative cultures to some extent, but that higher-level construal interventions may reduce REM to an even greater extent.

Table 4.2: Supplementary Pairwise Contrast Testing in Support of H2

Pairwise Contrast Testing – Deferred Spending	<i>t</i> -statistic	<i>p</i> -value ^a
<i>Tests conducted within the more innovative corporate culture independent variable:</i>		
Construal intervention absent > Lower-level construal-based intervention	-2.032	0.022
Construal intervention absent > Higher-level construal-based intervention	-3.253	0.001
Lower-level construal-based intervention > Higher-level construal-based intervention	-1.185	0.119

^a All hypotheses are tested within the ANOVA. Given the directional expectations suggested by my theory and hypotheses, these tests are one-tailed.

4.4 Additional Analysis

4.4.1 Introduction

In this section, I present analyses that provide additional insight into the thought processes of study participants as they were participating in my experiment and further inferences as to how participants came to their decisions.

4.4.2 Perceived Ethicality of REM

While prior literature has chronicled how and when managers may use REM strategies (Cohen et al. 2008; Dichev et al. 2013), very little work has been done to better understand the cognitive processes at play as managers choose whether or not to engage in this behavior. While the ethicality of REM is not the primary focus of this study, it is a question as to whether managers will view deferred spending to meet an earnings target or achieve a bonus as an ethical dilemma. Said differently, it is unclear whether managers recognize a conflict between what they *should do* (make a decision that benefits the long-term interests of the company at the expense of personal incentives) and what they *want to do* (make a decision that benefits themselves at the expense of the long-term interests of the company). To investigate how managers perceived this decision context, I ask participants, “how strongly did you feel ‘I should spend on kitchen updates soon?’” and “how strongly did you feel ‘I *want* to spend on kitchen updates soon?’” Participants recorded their responses on a 100-point scale, where 0 = “Not at all” and 100 = “Very Strongly”. I compared responses on a paired within-subjects *t*-test. Managers report a significantly greater obligation to upgrade the kitchens in the current year than a desire to do so (means = 79.97 vs. 73.50, $p = 0.003$, two-tailed, untabulated). Because managers perceive updating the kitchens as more of an obligation than a desire, this suggests that they experience conflict between what they feel *should* be done and what they *want* to do. This provides evidence that, even though managers in the experiment perceived ethical conflict, they chose to participate in REM behavior regardless.

4.5 Summary of Results

The results of this study suggest there may be unintended consequences that accompany attempts to cultivate creative cultures in organization. I present evidence that more innovative company cultures lead to higher-levels of self-interested REM behaviors. In addition, I find evidence that construal level theory-based interventions can reduce these behaviors. Specifically, I find that a lower-level construal-based intervention reduces self-interested behaviors to some extent, but that a higher-level construal-based intervention reduces this behavior to a greater extent. Thus, my findings suggest that companies that attempt to build more innovative company cultures in their organizations may wish to consider utilizing construal level theory to design decision prompts in order to reduce self-interested behavior elicited by creative culture.

CHAPTER 5

CONCLUSIONS

5.1 Introduction

This study investigates an unintended consequence of cultivating creative culture in organizations and proposes an intervention to address this unintended consequence. In my experiment, participants with management experience were provided background information about the history and culture of a hypothetical restaurant company. After completing a task designed to immerse them in the company's culture, participants are asked to approve a spending authorization that will cause the company to miss its earnings per share target and participants to miss their bonus target. Participants were randomly assigned to a more or less innovative company culture, and to one of three intervention conditions: intervention-absent, lower-level construal-based intervention, and higher-level construal-based intervention. The sections that follow provide conclusions, implications, limitations, and directions for future research.

5.2 Discussion and Implications

As executives continue to pursue the benefits of innovative company culture in their organizations, investigating unintended consequences of these work environments on financial decision making is an important area of accounting research. The results of this study suggest that even as managers attempt to cultivate creative culture in their organizations, unintended consequences to these attempts could lead to higher levels of self-interested REM behaviors in these organizations. Because creative corporate culture can send signals about the increased intra-organizational acceptability of high-risk

behaviors, absent an intervention, benefits of innovation could become eclipsed by costs. However, recognizing this relationship can help several different groups.

For instance, understanding the association between increased risk preferences and creative culture can help internal auditors more effectively assess risk across the organization. For external auditors, the findings of this study provide information about heightened risk as early as the client acceptance stage of audit planning, when auditors begin to obtain an understanding of the company. Regulators can use these findings to help identify engagements or industries where auditors may face elevated audit risk. For example, the PCAOB may benefit from the inclusion of organizational culture as an input to the engagement inspection decision in its risk-based inspection selection process. Finally, to the extent that REM behaviors are detrimental to the long-term viability of the firm, investors may benefit from the knowledge that innovative companies may harbor elevated risk of these behaviors.

In addition to contributing to practice, this study makes several contributions to accounting and psychology theory. To my knowledge, this is the first study to investigate unintended negative consequences of an otherwise desirable company culture on an organization's financial reporting function. This extends the literature on tone at the top to acknowledge that pervasive company initiatives do not necessarily need to be malevolent to have damaging effects on financial reporting quality. Second, the study adds to the emerging psychology literature on the "dark side" of creativity, and is the first study to move these effects into an applied context. More importantly, this is the first study to prescribe a "fix" for these unintended consequences. The findings of this study, combined with previous literature, imply that creativity incentives may or may not be

effective (Kachelmeier et al. 2008; Kachelmeier and Williamson 2010; Chen, Williamson and Zhou 2012), but could still be harmful. Finally, even as Förster, Freidman and Liberman (2004) find that higher-level construals can lead to creative thought, I demonstrate that higher-level construal-oriented choice prompts can reduce the unintended consequences of primed creativity. This provides early evidence that sequential application of construal interventions may not simply have additive effects.

5.3 Limitations

This research is subject to inherent limitations. First, as mentioned above, I only examine innovative company culture. While I consider this dimension to be important, company culture is often multi-faceted and may be more complex than can be faithfully reproduced in an experimental setting. This serves to increase the internal validity of the study by controlling for other dimensions of company culture, but it potentially limits the generalizability of my findings. Additionally, while the financial budgeting task is representative of decisions that managers encounter in practice, this is only a singular example of these tasks. Moreover, this study's setting involved an operating decision where participating in real earnings management led to a salient increase in risk. To the extent that risks of REM behaviors are not as salient in other contexts, my results may not be as generalizable. Finally, this study does not provide information about how corporate cultures affect other financial tasks, such as forecasting or estimate preparation, but instead leaves these questions for further research.

5.4 Directions for Future Research

Finally, this study provides rich avenues for future accounting and psychology research. Innovation is only one of seven dimensions of corporate culture identified by

O'Reilly (1991). Future research could investigate how these other dimensions affect the financial reporting function. If these other dimensions affect organizational risk, this could provide auditors with quick and low-cost information to be used while assessing the audit risk profile of a client. In addition, researchers may wish to consider how creative culture affects parties that are external to the organization, but may still be immersed in the company's culture. For example, external auditors, outsourced internal auditors, and independent contractors often spend substantial time working at client sites. It is unknown how effects of client company culture are balanced with the worker's own identity. Finally, psychologists could investigate how construal level-based interventions work in tandem. As mentioned earlier, Förster et al. (2004) found that higher-level construals are associated with higher levels of creativity. However, I found that higher-level construals could reduce self-interested behavior associated with creativity. Future research could investigate the link between these two findings.

APPENDIX

RESEARCH INSTRUMENT

This instrument was administered via the internet using the Qualtrics Research Suite. Unless otherwise noted, each screen was provided to participants in all conditions. The screens viewed by participants are provided on the following pages.

- EXHIBIT 1. Welcome Screen
- EXHIBIT 2. Informed Consent
- EXHIBIT 3. Introduction
- EXHIBIT 4. Simulation Date Attention Check
- EXHIBIT 5a. Bean's Burgers Background Information (Less Innovative Company Culture Conditions)
- EXHIBIT 5b. Bean's Burgers Background Information (More Innovative Company Culture Conditions)
- EXHIBIT 6a. Think BEAN! (Less Innovative Company Culture Conditions)
- EXHIBIT 6b. Think BEAN! (More Innovative Company Culture Conditions)
- EXHIBIT 7a. Think BEAN! Attention Check (Less Innovative Company Culture Conditions)
- EXHIBIT 7b. Think BEAN! Attention Check (More Innovative Company Culture Conditions)
- EXHIBIT 8. Burger Task Introduction
- EXHIBIT 9a. Burger Task "Loading" Screen (Less Innovative Company Culture Conditions)

- EXHIBIT 9b. Burger Task “Loading” Screen (More Innovative Company Culture Conditions)
- EXHIBIT 10. Burger Task Submission Form
- EXHIBIT 11. Transition Screen
- EXHIBIT 12. Shareholder Information
- EXHIBIT 13a. EPS and Bonus Payout Explanation (Construal Intervention Absent Conditions)
- EXHIBIT 13b. EPS and Bonus Payout Explanation (Lower-level Construal Intervention Conditions)
- EXHIBIT 13c. EPS and Bonus Payout Explanation (Higher-level Construal Intervention Conditions)
- EXHIBIT 14a. Meeting with Regional Manager (Construal Intervention Absent Conditions)
- EXHIBIT 14b. Meeting with Regional Manager (Lower-level Construal Intervention Conditions)
- EXHIBIT 14c. Meeting with Regional Manager (Higher-level Construal Intervention Conditions)
- EXHIBIT 15. Meeting with Regional Manager Attention Check
- EXHIBIT 16a. Spending Decision Explanation (Construal Intervention Absent Conditions)
- EXHIBIT 16b. Spending Decision Explanation (Lower-level Construal Intervention Conditions)

- EXHIBIT 16c. Spending Decision Explanation (Higher-level Construal Intervention Conditions)
- EXHIBIT 17a. Decision “Loading” Screen (Construal Intervention Absent Conditions)
- EXHIBIT 17b. Decision “Loading” Screen (Lower-level Construal Intervention Conditions)
- EXHIBIT 17c. Decision “Loading” Screen (Higher-level Construal Intervention Conditions)
- EXHIBIT 18a. Spending Decision Screen (Construal Intervention Absent Conditions)
- EXHIBIT 18b. Spending Decision Screen (Lower-level Construal Intervention Conditions)
- EXHIBIT 18c. Spending Decision Screen (Higher-level Construal Intervention Conditions)
- EXHIBIT 19a. Spending Decision Screen Confirmation Box (Construal Intervention Absent Conditions)
- EXHIBIT 19b. Spending Decision Screen Confirmation Box (Lower-level Construal Intervention Conditions)
- EXHIBIT 19c. Spending Decision Screen Confirmation Box (Higher-level Construal Intervention Conditions)
- EXHIBIT 20. Spending Decision Explanation
- EXHIBIT 21. Transition Screen
- EXHIBIT 22a-i. Post Experimental Questions
- EXHIBIT 23. End of Experiment and Bonus Payout Screen

EXHIBIT 1

Welcome Screen

Thank you for your interest in our study. The study will take approximately 30 minutes. Please proceed to the next page to view the informed consent notice.

>>

EXHIBIT 2

Informed Consent

Informed Consent

Introduction to the study: In this study, you will complete a managerial decision making simulation. We are interested in how people make choices at work.

How your privacy is protected: Your responses will be kept in an electronic database. We will not ask for your name or other personally identifying information. Once entered into the database, any record linking your responses to your Amazon Mechanical Turk ID will be destroyed. Any presentations of this research will present participants' responses at the aggregate level without personally identifiable information.

Risks and discomforts: We do not know of any personal risk or discomfort from being in this study. Participation involves making judgments that are ordinary and routine for people in daily life and is not expected to pose any risk (physical or otherwise) beyond that normally encountered in daily life.

Benefits: By participating, you will help contribute to knowledge of managerial decisions and will be compensated for your time.

Your rights: You should decide on your own whether or not you want to be in this study. Participation in the study is voluntary. If you do decide to be in the study, you have the right to stop being in the study at any time.

If you want a copy of this form, please print this screen. If you are unable to print the screen or have any questions regarding this study, please contact rguggenm@som.umass.edu.

Review Board approval: The Institutional Review Board of the Isenberg School of Management at the University of Massachusetts Amherst has approved this study.

BY SELECTING "ACCEPT", YOU ARE CONSENTING TO INCLUSION IN THIS STUDY.

I have had the chance to ask any questions I have about this study and any questions have been answered. I have read the information in this consent form and I agree to be in the study.

ACCEPT

DECLINE

>>

EXHIBIT 3

Introduction

Thank you for agreeing to participate in this study.

We have designed a simulation to learn more about how people make decisions at work. In this study, you will play the part of Chris Ferguson, a manager at Bean's Burgers, a chain of upscale hamburger restaurants. As in real life, you can earn additional compensation based on your performance. In order to maximize your compensation, it is important that you pay close attention to the materials provided.

It is July 24, 2014 and you've been promoted to regional manager of the Delta region. As a regional manager, you are responsible for making business decisions to ensure the profitability of your region and the company as a whole, and for participating in region and company-wide initiatives. You report to Pat Franklin, the company's Chief Financial Officer, and supervise six district managers.

Payment

Your payment for this HIT is based on (1) completion of the HIT (base pay) and (2) your performance (bonus). At the end of the simulation, the researchers will calculate your final bonus(es), if any, and tell you the amount of these payments and when they will be paid.

In addition, completed HITs that reflect that participants were not devoting their full attention to the task are not useful to the researchers. As such (and as described in the HIT), participants who do not correctly answer the "Check for Understanding" questions throughout the study will be exited from the study and forfeit the opportunity to earn bonus compensation. To encourage full attention, many of the "next buttons" throughout the study will not be visible until a reasonable amount of time has passed, allowing you the opportunity to fully read and understand the materials. There is no benefit to rushing through the study.

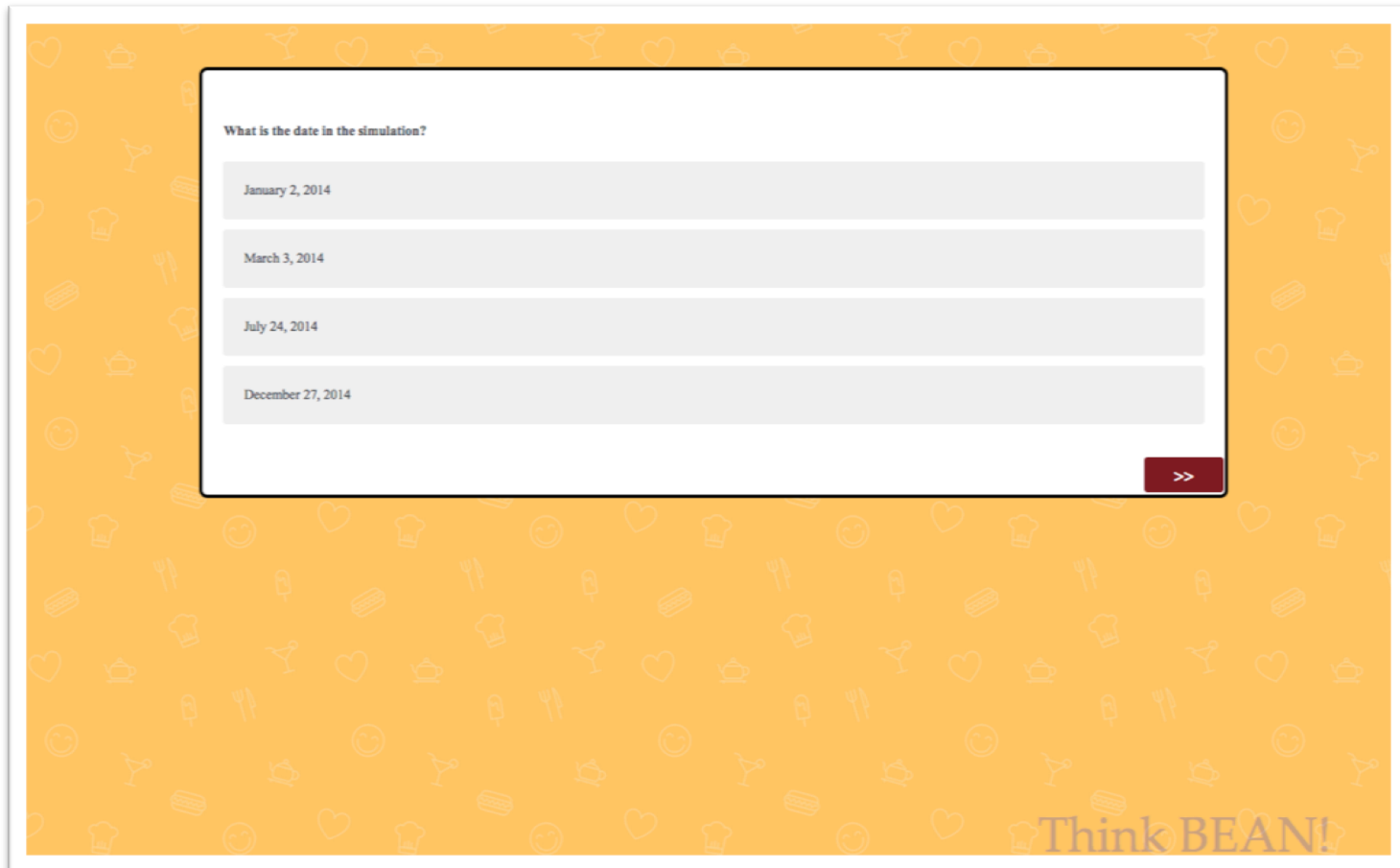
You are now ready to begin! Please click below to start the simulation.

>>

Think BEAN!

EXHIBIT 4

Simulation Date Attention Check



The image shows a digital interface for a simulation date attention check. It features a white rectangular box with a thin black border on an orange background. The background is decorated with a repeating pattern of small, light-colored icons including hearts, chef hats, and smiley faces. Inside the white box, the text "What is the date in the simulation?" is positioned at the top left. Below this text are four horizontal, light gray rectangular buttons, each containing a date. A small red button with a white double arrow icon is located at the bottom right of the white box. In the bottom right corner of the orange background, the text "Think BEAN!" is displayed in a stylized font.

What is the date in the simulation?

January 2, 2014

March 3, 2014

July 24, 2014

December 27, 2014

>>

Think BEAN!

EXHIBIT 5a

Bean's Burgers Background Information (Less Innovative Company Culture Conditions)

Welcome to Bean's Burgers!

Our Story
Bean's Burgers was started by Aaron Bean, a man with a burger in his hand and a desire to deliver this burger to the people. After borrowing \$500 from his parents, he opened the doors to his first restaurant in December 1990 where he served his first burger to his childhood friend, Randy. Because Bean's Burgers are delicious, word spread like wildfire. After just 4 years, Aaron Bean opened his second Bean's Burgers restaurant. Since then, the company has grown tremendously, and now you can experience a Bean's Burger from coast-to-coast. As the company looks towards its 25th year, Aaron Bean still credits Bean's Burgers success to the "Think BEAN!" philosophy he has held since the company's humble beginnings.

Who We Are Now?
Bean's Burgers is a mid-size publicly traded company competing in the "fast-casual" restaurant category. We compete with other fast-casual restaurants, such as Red Robin, Applebees, and Ruby Tuesday. In addition, the company faces threats from upscale quick-service restaurant chains, such as Chipotle, Five Guys Burgers and Fries, Qdoba, and local family restaurants.

Company Culture
Bean's Burgers is proud of who we are and it shows in our culture. Our focus on time-honored traditions is taught to each employee, from fry cook to CEO, as part of the Bean's Burgers on-boarding process. To drive home how much the company values having a "why reinvent the wheel?" mindset, we reward employees that solve business problems with proven, tried-and-true solutions.

>>

Think BEAN!

EXHIBIT 5b

Bean's Burgers Background Information (More Innovative Company Culture Conditions)

Welcome to Bean's Burgers!

From Sprout to Stalk: How We Grew Up

Bean's Burgers was started by Aaron Bean, a man with a burger in his hand and a desire to deliver this burger to the people. After borrowing \$500 from his parents, he opened the doors to his first restaurant in December 1990 where he served his first burger to his childhood friend, Randy. Because Bean's Burgers are delicious, word spread like wildfire. After just 4 years, Aaron Bean opened his second Bean's Burgers restaurant. Since then, the company has grown tremendously, and now you can experience a Bean's Burger from coast-to-coast. As the company looks towards its 25th year, Aaron Bean still credits Bean's Burgers success to the "Think BEAN!" philosophy he has held since the company's humble beginnings.

Who We Are Now?

Bean's Burgers is a mid-size publicly traded company competing in the "fast-casual" restaurant category. We compete with other fast-casual restaurants, such as Red Robin, Applebees, and Ruby Tuesday. In addition, the company faces threats from upscale quick-service restaurant chains, such as Chipotle, Five Guys Burgers and Fries, Qdoba, and local family restaurants.

Company Culture

Bean's Burgers is proud of who we are and it shows in our culture. Our focus on cutting-edge solutions is taught to each employee, from fry cook to CEO, as part of the Bean's Burgers on-boarding process. To drive home how much the company values having a "think outside-the-box" mindset, we reward employees that solve business problems with innovative and creative solutions.

>>

Think BEAN!

EXHIBIT 6a

Think BEAN! (Less Innovative Company Culture Conditions)

Think BEAN!

Our founder, Aaron Bean, credits our success to the "Think BEAN!" philosophy and its effect on the company's culture. By living the "Think BEAN!" mindset at work, we always know what to do. Think BEAN! is an acronym that stands for beautiful *burgers*, executing *elegance*, ageless experiences, and *nostalgic* interactions.

Beautiful BURGERS

Like the Mona Lisa, a Bean's Burger is a work of conventional beauty. Our customers love that we stick to tradition. Our burgers stand for themselves. We don't need fancy condiments or new-fangled gimmicks to make a great burger! To be successful, we just need to do things the way we've been doing them for the past 25 years. Over time, we've learned that traditional and consistent approaches are the keys to success.

Executing ELEGANCE

When thinking about hamburgers, most people don't think about elegance. However, we think that adding a bit of simple elegance to a night out, whatever the cuisine, keeps customers coming back. This way of thinking extends beyond our restaurants. As a Bean's manager, you should attack problems with elegantly simple, tried-and-true solutions because, even though an idea may seem simple at first, it just might work.

AGELESS Experiences

The ritual of enjoying a meal out with family and friends has been an affordable luxury in the best and worst of times. Accordingly, we strive to preserve the ageless nature of the family meal. Our advertising often focuses on tradition and the timeless joy of getting together with loved ones. This focus on tradition carries itself to the corporate office, as our managers prefer strategies that have stood the test of time.

NOSTALGIC Interactions

Customer interactions are the most important part of Bean's business. Because of this, we focus on cultivating perfect interactions between diners and restaurant personnel. We believe that the perfect interaction is one that inspires a patron to reminisce back to the best meal they've ever had and to compare it to their meal at Bean's. By providing interactions customers can reflect back on, Bean's can make dining nostalgic. Employees take this same approach when solving problems. As management, we challenge employees to make comparisons between their proposed solution to an issue and other well-established solutions that are proven to have worked in the past. By reflecting back on our past successes, we believe that we can keep making great decisions far into the future.

>>

Think BEAN!

EXHIBIT 6b

Think BEAN! (More Innovative Company Culture Conditions)

Think BEAN!

Our founder, Aaron Bean, credits our success to the "Think BEAN!" philosophy and its effect on the company's culture. By living the "Think BEAN!" mindset at work, we always know what to do. Think BEAN! is an acronym that stands for beautiful *burgers*, exemplifying *eccentricity*, *adventurous* experiences, and *novel* interactions.

Beautiful BURGERS

Like the creation of a modern sculptor, a Bean's Burger is a work of unconventional beauty. People come to our restaurants for the creative and unexpected -- and we love to deliver. We leave no stone unturned imagining ingenious new burgers for our customers to chow down on. We're 25 years young and we don't see any reason to grow up now. We embrace inventiveness, because we've learned that creative and innovative approaches are the keys to success.

Exemplifying ECCENTRICITY

When thinking about hamburgers, most people don't think about eccentricity. However, we think that adding a bit of unpredictability to a night out, whatever the cuisine, keeps customers coming back. This way of thinking extends beyond our restaurants. As a Bean's manager, you should attack problems by thinking outside the box because, even though an idea may seem crazy at first, it just might work.

ADVENTUROUS Experiences

The ritual of enjoying a meal out with family and friends has been an affordable luxury in the best and worst of times. Accordingly, we strive to incorporate a little adventure into the family meal. Our advertising often focuses on the fun that accompanies trying something new with loved ones. This focus on adventure carries itself to the corporate office, as our managers prefer strategies that capture the company's sense of adventure.

NOVEL Interactions

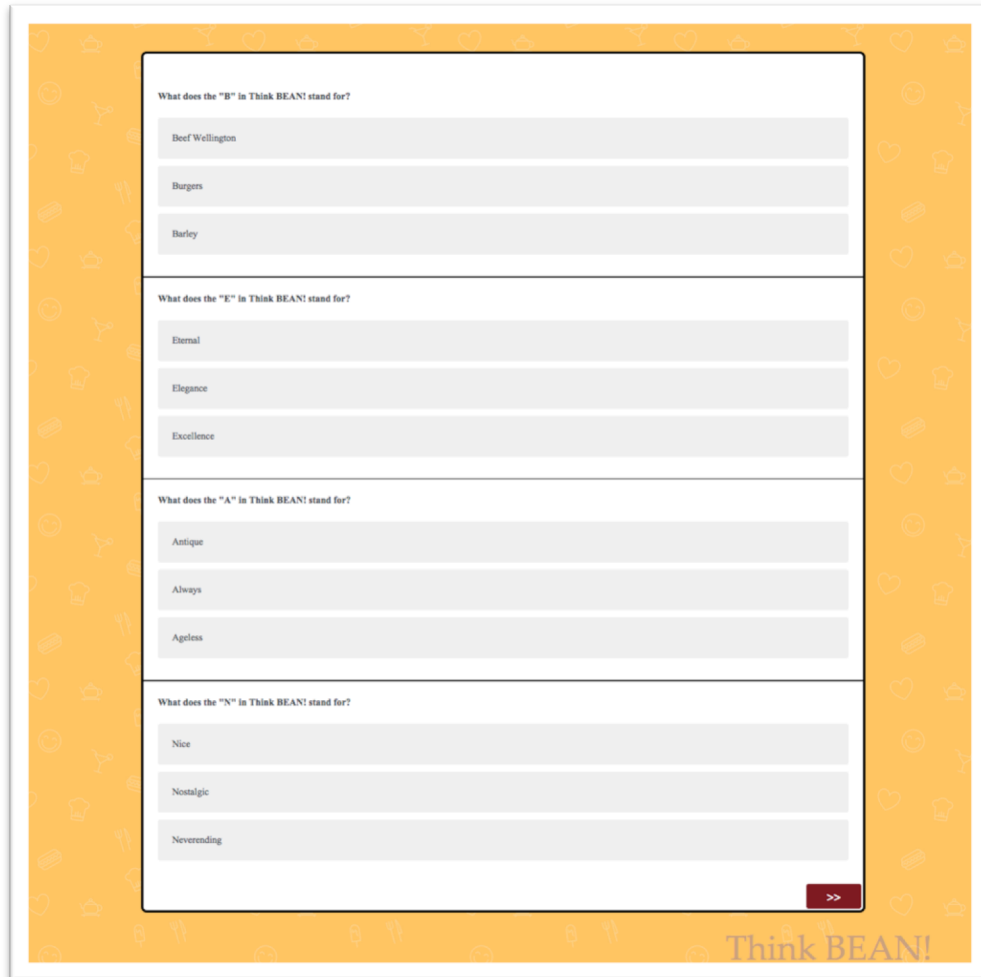
Customer interactions are the most important part of Bean's business. Because of this, we focus on cultivating perfect interactions between diners and restaurant personnel. We believe that the perfect interaction is one that is uniquely memorable. By providing new and innovative interactions, Bean's can make dining novel. We take this same approach to solving problems. As management, we challenge our employees to find new ways to attack issues. Just because a solution has worked in the past, that doesn't mean there isn't room for improvement. By focusing on being novel, we believe that we can keep innovating far into the future.

>>

Think BEAN!

EXHIBIT 7a

Think BEAN! Attention Check (Less Innovative Company Culture Conditions)



The form is titled "Think BEAN! Attention Check (Less Innovative Company Culture Conditions)". It is set against a yellow background with a repeating pattern of small icons: a lightbulb, a heart, a gear, a magnifying glass, a pencil, and a notepad. The form itself is a white rectangle with a black border, divided into four sections by horizontal lines. Each section asks for the meaning of a letter in "BEAN!" and provides three text input fields. The sections are: "B" (Beef Wellington, Burgers, Barley), "E" (Eternal, Elegance, Excellence), "A" (Antique, Always, Ageless), and "N" (Nice, Nostalgic, Neverending). A red button with white text ">>" is located at the bottom right of the form. The text "Think BEAN!" is written in a large, bold, black font at the bottom right of the yellow background.

What does the "B" in Think BEAN! stand for?

Beef Wellington

Burgers

Barley

What does the "E" in Think BEAN! stand for?

Eternal

Elegance

Excellence

What does the "A" in Think BEAN! stand for?

Antique

Always

Ageless

What does the "N" in Think BEAN! stand for?

Nice

Nostalgic

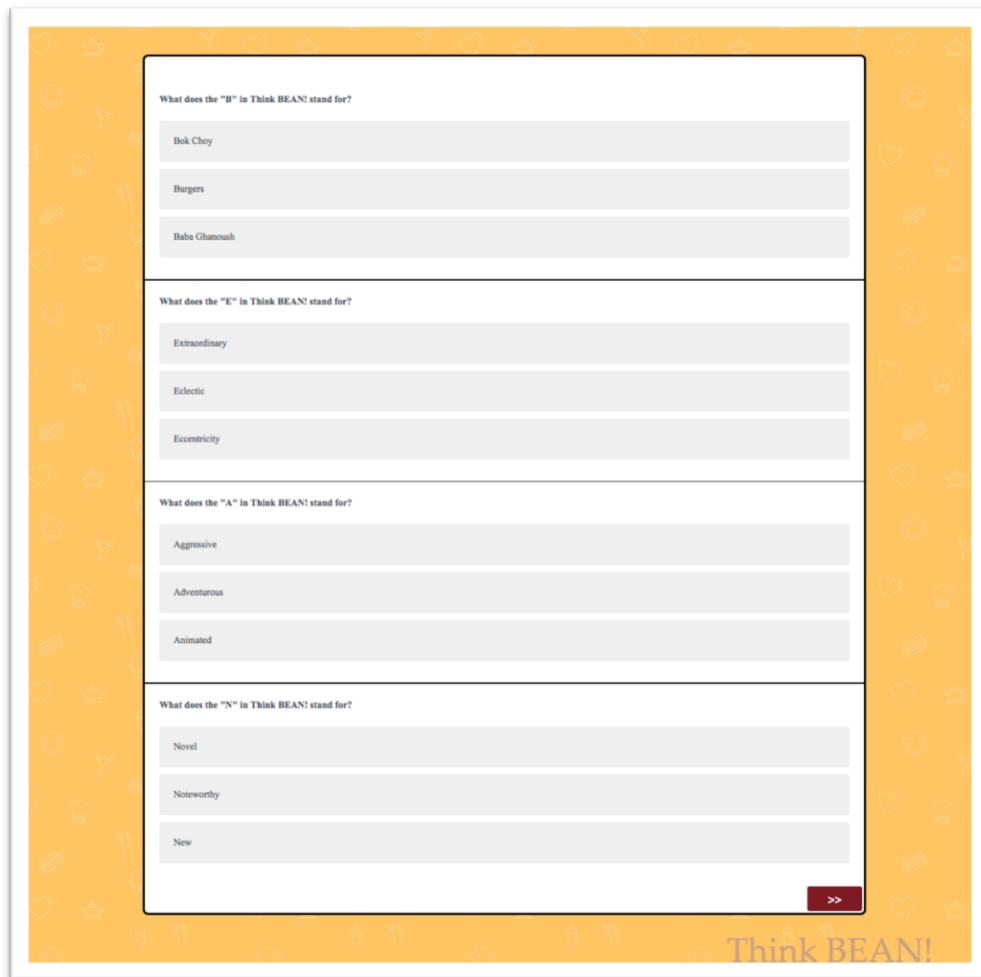
Neverending

>>

Think BEAN!

EXHIBIT 7b

Think BEAN! Attention Check (More Innovative Company Culture Conditions)



The form is titled "Think BEAN! Attention Check (More Innovative Company Culture Conditions)". It is set against a yellow background with a repeating pattern of small icons: a lightbulb, a heart, a house, a person, and a gear. The form itself is a white rectangle with a black border, divided into four sections by horizontal lines. Each section has a question and three text input fields.

What does the "B" in Think BEAN! stand for?

- Bok Choy
- Burgers
- Baba Ghanoush

What does the "E" in Think BEAN! stand for?

- Extraordinary
- Eclectic
- Eccentricity

What does the "A" in Think BEAN! stand for?

- Aggressive
- Adventurous
- Animated

What does the "N" in Think BEAN! stand for?

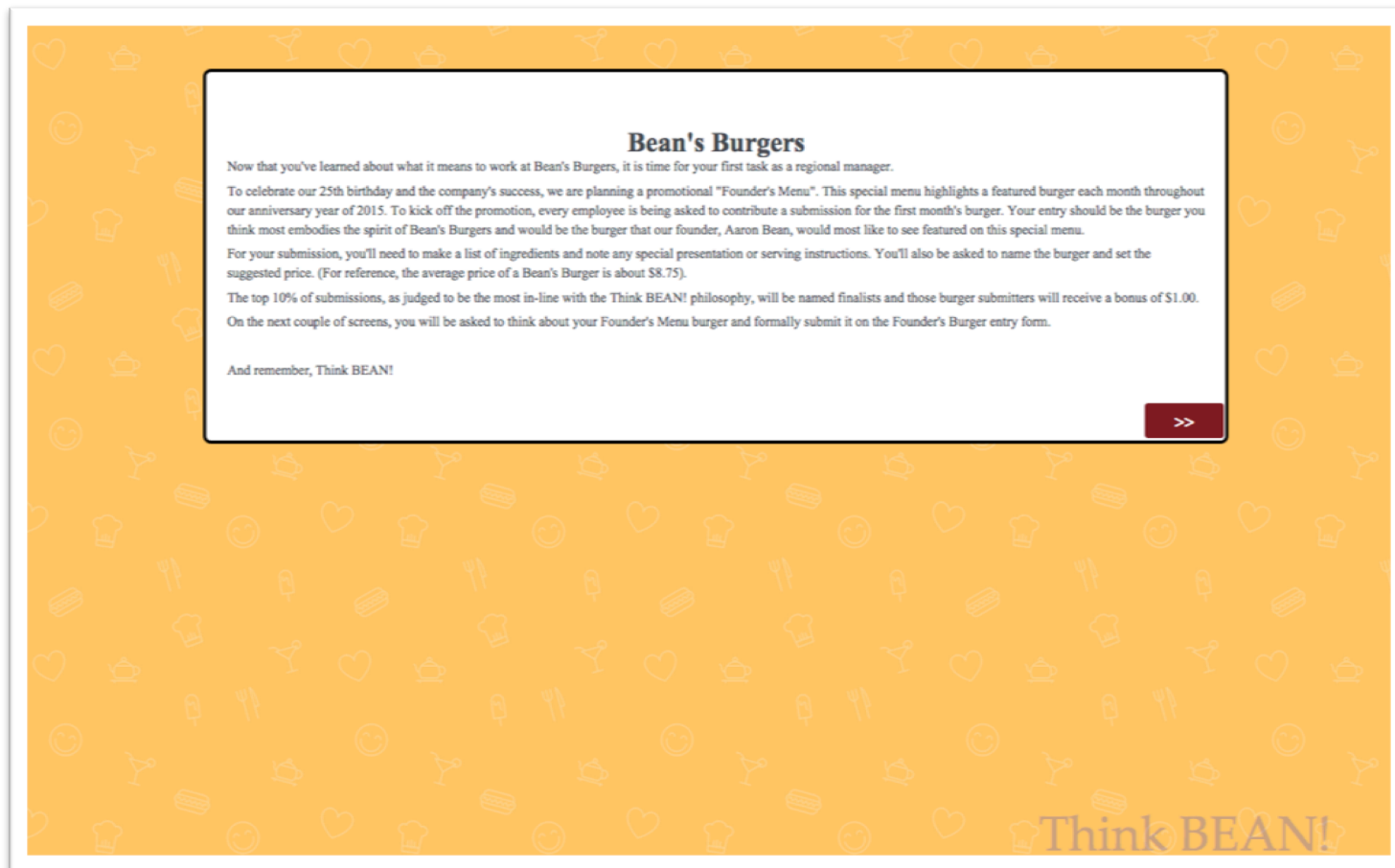
- Novel
- Noteworthy
- New

At the bottom right of the form is a red button with the text ">>".

Think BEAN!

EXHIBIT 8

Burger Task Introduction



Bean's Burgers

Now that you've learned about what it means to work at Bean's Burgers, it is time for your first task as a regional manager.

To celebrate our 25th birthday and the company's success, we are planning a promotional "Founder's Menu". This special menu highlights a featured burger each month throughout our anniversary year of 2015. To kick off the promotion, every employee is being asked to contribute a submission for the first month's burger. Your entry should be the burger you think most embodies the spirit of Bean's Burgers and would be the burger that our founder, Aaron Bean, would most like to see featured on this special menu.

For your submission, you'll need to make a list of ingredients and note any special presentation or serving instructions. You'll also be asked to name the burger and set the suggested price. (For reference, the average price of a Bean's Burger is about \$8.75).

The top 10% of submissions, as judged to be the most in-line with the Think BEAN! philosophy, will be named finalists and those burger submitters will receive a bonus of \$1.00.

On the next couple of screens, you will be asked to think about your Founder's Menu burger and formally submit it on the Founder's Burger entry form.

And remember, Think BEAN!

>>

Think BEAN!

EXHIBIT 9a

Burger Task “Loading” Screen (Less Innovative Company Culture Conditions)

Note: Loading progress bar was animated and text cycled through “Think BEAN!” headings.

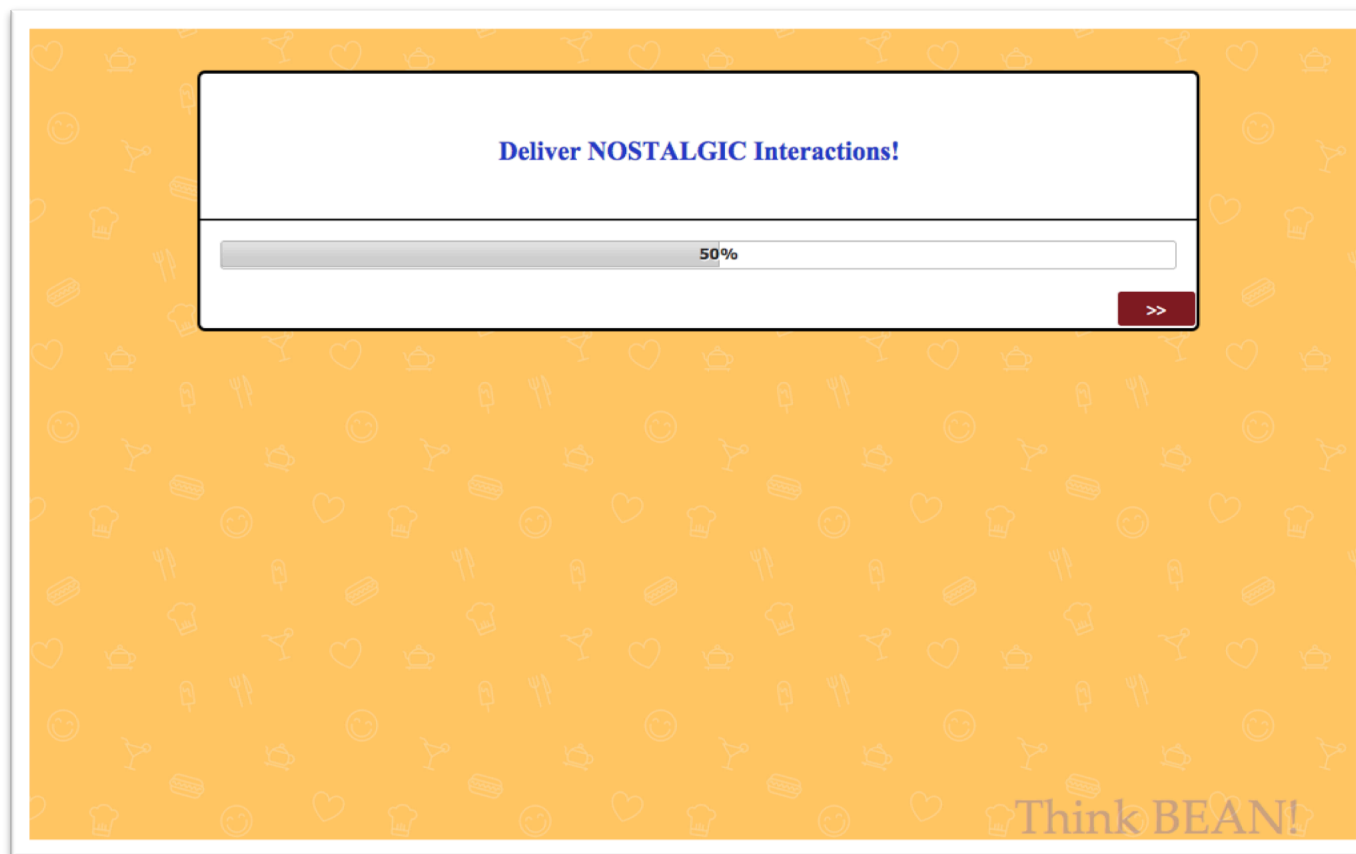


EXHIBIT 9b

Burger Task “Loading” Screen (More Innovative Company Culture Conditions)

Note: Loading progress bar was animated and text cycled through “Think BEAN!” headings.

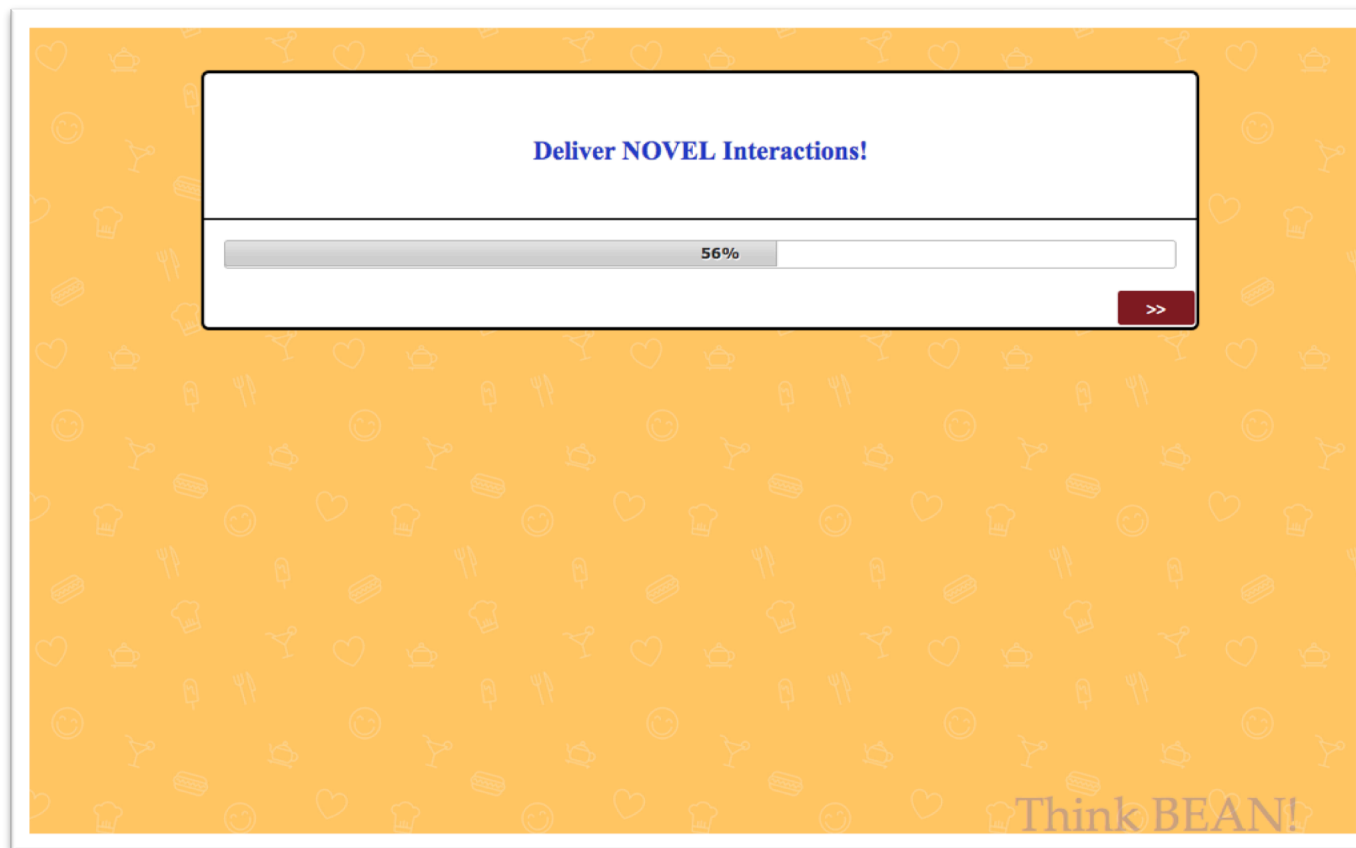
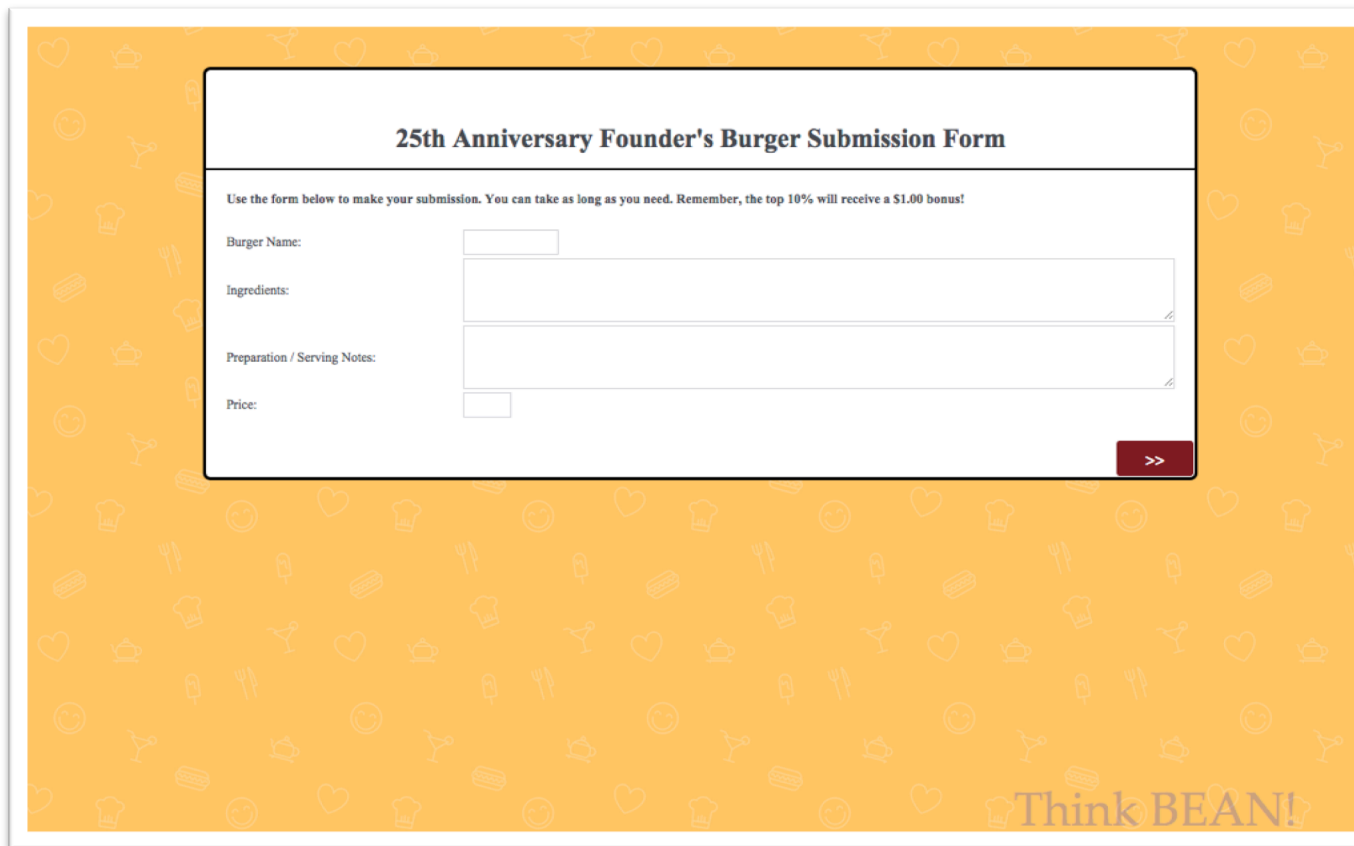


EXHIBIT 10

Burger Task Submission Form



The form is titled "25th Anniversary Founder's Burger Submission Form" and is set against a yellow background with a repeating pattern of food-related icons. The form itself is a white rectangle with a black border. It contains a title, an instruction, and four input fields: "Burger Name:", "Ingredients:", "Preparation / Serving Notes:", and "Price:". A red button with a white right-pointing arrow is located at the bottom right of the form. The "Think BEAN!" logo is in the bottom right corner of the yellow background.

25th Anniversary Founder's Burger Submission Form

Use the form below to make your submission. You can take as long as you need. Remember, the top 10% will receive a \$1.00 bonus!

Burger Name:

Ingredients:

Preparation / Serving Notes:

Price:

>>

Think BEAN!

EXHIBIT 11

Transition Screen



EXHIBIT 12

Shareholder Information

The graphic features a white central box with a black border on an orange background. The background is decorated with a repeating pattern of small, light-colored icons including hearts, burgers, fries, and smiley faces. The text inside the box is as follows:

Bean's Burgers

As you know, Bean's Burgers is a publicly traded company. While Wall Street analysts often make predictions about our stock price, we are owned by our shareholders. As required by law, we keep records of the people who own stock in the company. From time to time, we also ask shareholders some additional questions about who they are and about their investment intentions. Here is a summary of some of the information gathered:

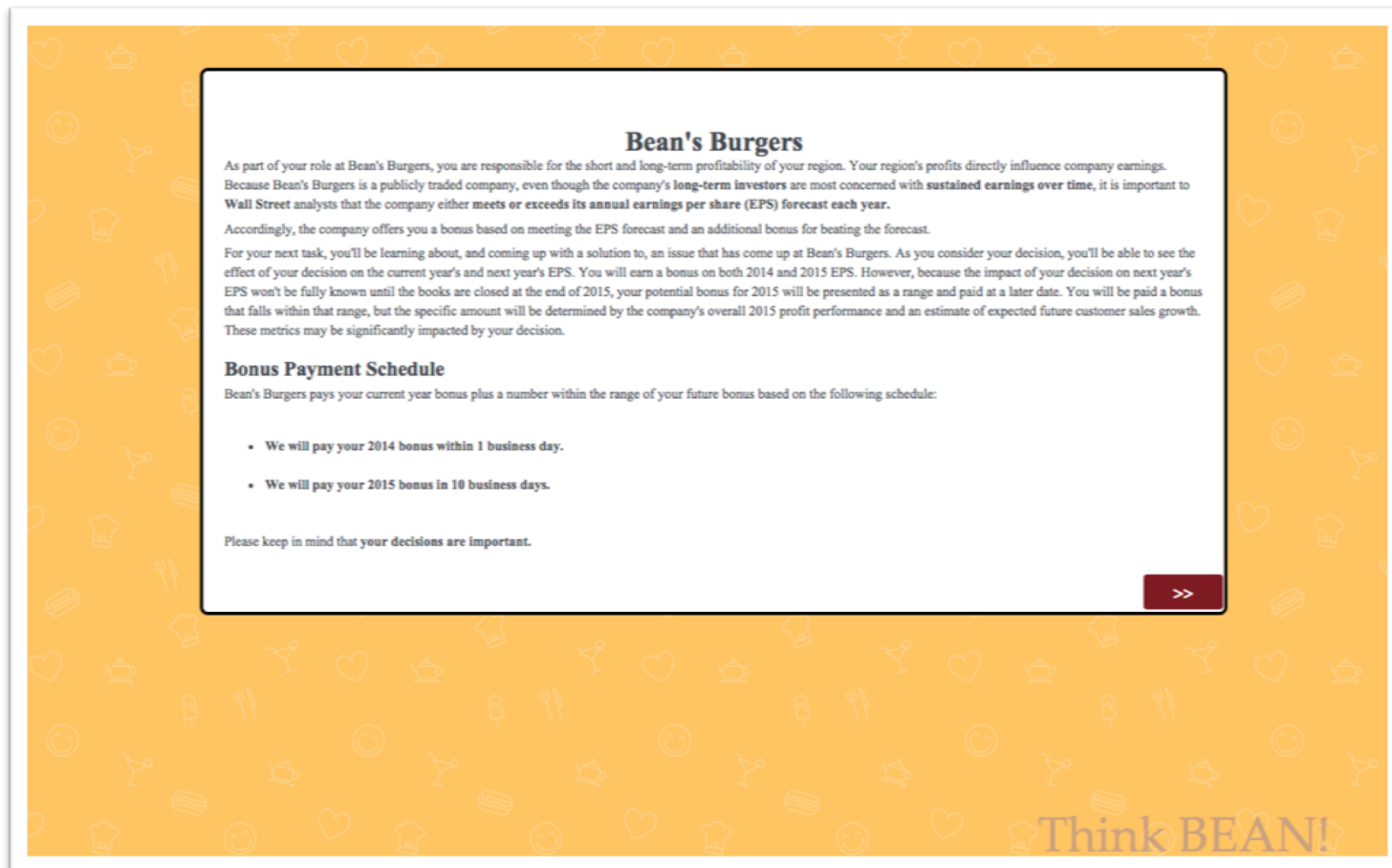
- 23% of the company's shares are owned by mutual funds and other large institutional investors.
- 72% of the company's shares are owned by individual investors.
- When polling the company's individual investors:
 - 74% agree strongly with the statement, "I invest in Bean's Burgers because I love their products."
 - 29% agree with the statement, "I consider myself to be financially savvy."
 - 75% agree with the statement, "I feel like Bean's is a great investment."
- 85% of investors have held the company's shares for greater than 1 year.

A red button with white double arrow symbols (>>) is located in the bottom right corner of the white box.

Think BEAN!

EXHIBIT 13a

EPS and Bonus Payout Explanation (Construal Intervention Absent Conditions)



Bean's Burgers

As part of your role at Bean's Burgers, you are responsible for the short and long-term profitability of your region. Your region's profits directly influence company earnings. Because Bean's Burgers is a publicly traded company, even though the company's long-term investors are most concerned with **sustained earnings over time**, it is important to Wall Street analysts that the company either **meets or exceeds its annual earnings per share (EPS) forecast each year**.

Accordingly, the company offers you a bonus based on meeting the EPS forecast and an additional bonus for beating the forecast.

For your next task, you'll be learning about, and coming up with a solution to, an issue that has come up at Bean's Burgers. As you consider your decision, you'll be able to see the effect of your decision on the current year's and next year's EPS. You will earn a bonus on both 2014 and 2015 EPS. However, because the impact of your decision on next year's EPS won't be fully known until the books are closed at the end of 2015, your potential bonus for 2015 will be presented as a range and paid at a later date. You will be paid a bonus that falls within that range, but the specific amount will be determined by the company's overall 2015 profit performance and an estimate of expected future customer sales growth. These metrics may be significantly impacted by your decision.

Bonus Payment Schedule

Bean's Burgers pays your current year bonus plus a number within the range of your future bonus based on the following schedule:

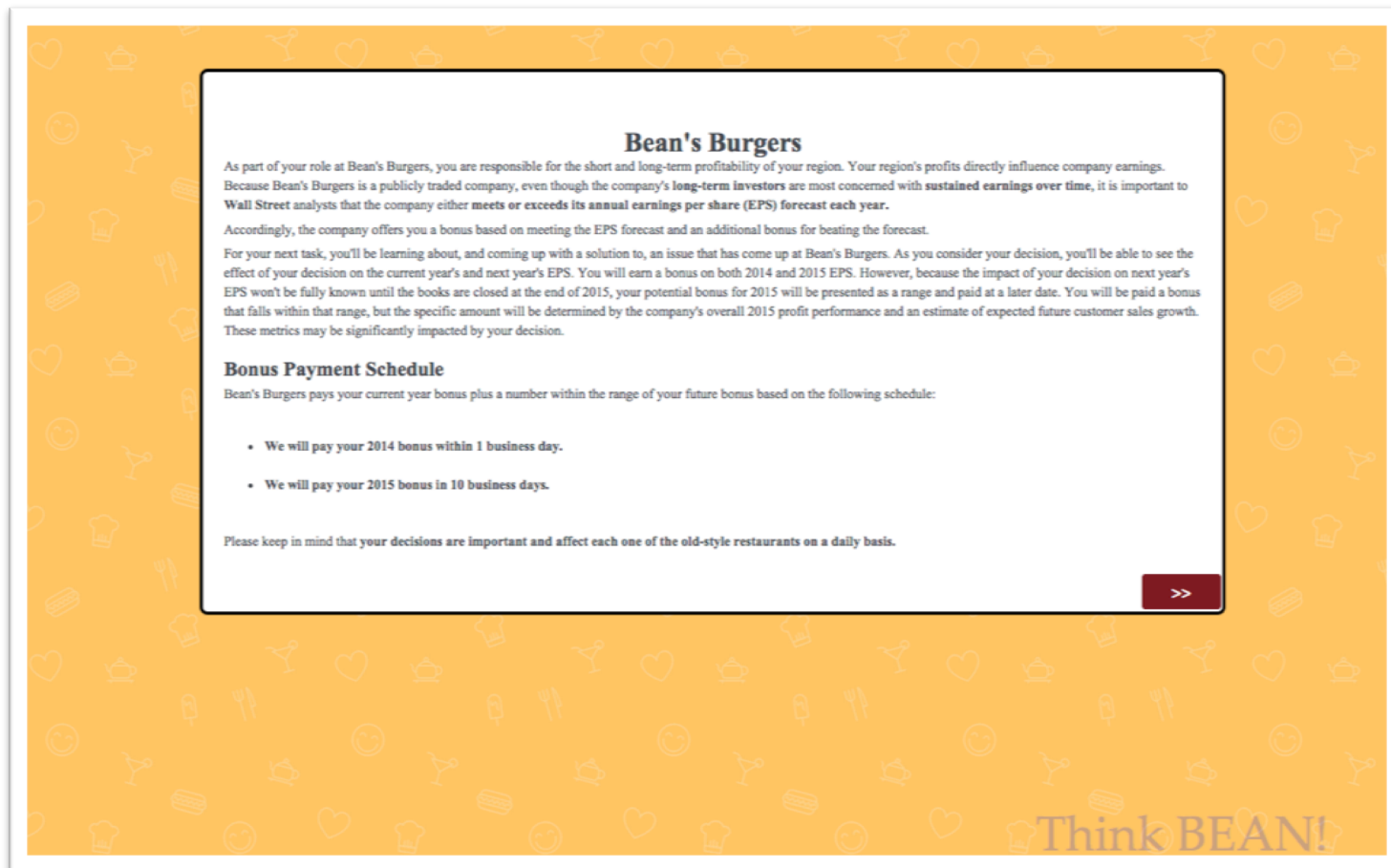
- We will pay your 2014 bonus within 1 business day.
- We will pay your 2015 bonus in 10 business days.

Please keep in mind that your decisions are important.

Think BEAN!

EXHIBIT 13b

EPS and Bonus Payout Explanation (Lower-level Construal Intervention Conditions)



Bean's Burgers

As part of your role at Bean's Burgers, you are responsible for the short and long-term profitability of your region. Your region's profits directly influence company earnings. Because Bean's Burgers is a publicly traded company, even though the company's **long-term investors** are most concerned with **sustained earnings over time**, it is important to **Wall Street** analysts that the company either **meets or exceeds its annual earnings per share (EPS) forecast each year**.

Accordingly, the company offers you a bonus based on meeting the EPS forecast and an additional bonus for beating the forecast.

For your next task, you'll be learning about, and coming up with a solution to, an issue that has come up at Bean's Burgers. As you consider your decision, you'll be able to see the effect of your decision on the current year's and next year's EPS. You will earn a bonus on both 2014 and 2015 EPS. However, because the impact of your decision on next year's EPS won't be fully known until the books are closed at the end of 2015, your potential bonus for 2015 will be presented as a range and paid at a later date. You will be paid a bonus that falls within that range, but the specific amount will be determined by the company's overall 2015 profit performance and an estimate of expected future customer sales growth. These metrics may be significantly impacted by your decision.

Bonus Payment Schedule

Bean's Burgers pays your current year bonus plus a number within the range of your future bonus based on the following schedule:

- We will pay your 2014 bonus within 1 business day.
- We will pay your 2015 bonus in 10 business days.

Please keep in mind that your decisions are important and affect each one of the old-style restaurants on a daily basis.

>>

Think BEAN!

EXHIBIT 13c

EPS and Bonus Payout Explanation (Higher-level Construal Intervention Conditions)



Bean's Burgers

As part of your role at Bean's Burgers, you are responsible for the short and long-term profitability of your region. Your region's profits directly influence company earnings. Because Bean's Burgers is a publicly traded company, even though the company's **long-term investors** are most concerned with **sustained earnings over time**, it is important to **Wall Street** analysts that the company either **meets or exceeds its annual earnings per share (EPS) forecast each year**.

Accordingly, the company offers you a bonus based on meeting the EPS forecast and an additional bonus for beating the forecast.

For your next task, you'll be learning about, and coming up with a solution to, an issue that has come up at Bean's Burgers. As you consider your decision, you'll be able to see the effect of your decision on the current year's and next year's EPS. You will earn a bonus on both 2014 and 2015 EPS. However, because the impact of your decision on next year's EPS won't be fully known until the books are closed at the end of 2015, your potential bonus for 2015 will be presented as a range and paid at a later date. You will be paid a bonus that falls within that range, but the specific amount will be determined by the company's overall 2015 profit performance and an estimate of expected future customer sales growth. These metrics may be significantly impacted by your decision.

Bonus Payment Schedule

Bean's Burgers pays your current year bonus plus a number within the range of your future bonus based on the following schedule:

- We will pay your 2014 bonus within 1 business day.
- We will pay your 2015 bonus in 10 business days.

Please keep in mind that your decisions are important and affect your whole region.

>>

Think BEAN!

EXHIBIT 14a

Meeting with Regional Manager (Construal Intervention Absent Conditions)

Bean's Burgers

July 24, 2014 - After lunch with your new district manager team you remember you have a meeting scheduled with Mike Beecher, the outgoing regional manager for the Delta region. Mike has done a great job managing the Delta region of Bean's for the past 10 years, but he has decided to retire and you have been tapped to lead Delta. You hope that he will share some of his secrets for success with you as he updates you on news in the region.

"Hey Chris, Pat wanted me to update you on what's going on in the Delta region before I leave," Mike says as he enters your office.

"Well, as you may know, many of the restaurants in the Delta region were part of Bean's first big push across the country years back. This means that the kitchen equipment in these restaurants isn't doing so well. Of course, customers don't see our kitchens, but they are a major part of our operations. A couple years ago we started replacing kitchen equipment in these restaurants, but we still have about 350 left to update. Bringing one of our kitchens up to 2014 standards costs about \$10,000. We've budgeted to complete the rest of the updates by the end of 2014 and you'll need to authorize the spending for these later today. Frankly, it can't come soon enough -- the equipment gets worse as it gets older."

Mike leans in and starts to whisper, "Just between you and me, as we've updated these kitchens, we've found that the refrigeration units in many of these older stores aren't quite up to snuff. On more than one occasion, raw meat and dairy were much too warm. The problem is they go in and out of temperature. Sometimes food is too hot and sometimes its not. Even the coolers that work properly now, probably won't last long. When restaurant management finds food that is not kept cold enough, they throw it out, which hurts our bottom line. But, I'm also worried about the times when managers don't notice and these products go out to customers. In the best case, we're serving low-quality food. In the worst case, someone could get sick. It's a small, but real, chance and each day the updates aren't made we're taking a gamble. Can you imagine what that kind of publicity a food safety lawsuit could bring? That kind of press can haunt a company's bottom line for years. In that case, you could kiss your bonus goodbye for awhile."

"The other news is something you may already know about. It's no secret that with the temporary rise in beef prices, the burger industry has had a rough year. **But, somehow our competitors have all hit their EPS forecasts this year and Wall Street analysts expect us to do the same.** As it stands now, I'm not sure how we can hit the target. With that said, **if you can figure out a way to help, you'll make a name for yourself quickly.** For the most part, our shareholders are focused on the long-term and can handle a one-time dip in EPS, but those Wall Street guys can really punish our share price in the short-term for it."

"I think that's all that's going on that you don't already know about. Any questions?" Mike asks.

"Just one," you say. "Delta region has been the top dog at the company for years and everyone knows you usually have one of the biggest bonuses in the company, do you have any advice for me as I take over?"

Mike smiles and says, "Just one thing, Chris. Being a regional manager means your decisions are important, so make sure you never forget to Think BEAN."

>>

Think BEAN!

EXHIBIT 14b

Meeting with Regional Manager (Lower-level Construal Intervention Conditions)



Bean's Burgers

July 24, 2014 - After lunch with your new district manager team you remember you have a meeting scheduled with Mike Beecher, the outgoing regional manager for the Delta region. Mike has done a great job managing the Delta region of Bean's for the past 10 years, but he has decided to retire and you have been tapped to lead Delta. You hope that he will share some of his secrets for success with you as he updates you on news in the region.

"Hey Chris, Pat wanted me to update you on what's going on in the Delta region before I leave," Mike says as he enters your office.

"Well, as you may know, many of the restaurants in the Delta region were part of Bean's first big push across the country years back. This means that the kitchen equipment in these restaurants isn't doing so well. Of course, customers don't see our kitchens, but they are a major part of our operations. A couple years ago we started replacing kitchen equipment in these restaurants, but we still have about 350 left to update. Bringing one of our kitchens up to 2014 standards costs about \$10,000. We've budgeted to complete the rest of the updates by the end of 2014 and you'll need to authorize the spending for these later today. Frankly, it can't come soon enough -- the equipment gets worse as it gets older."

Mike leans in and starts to whisper, "Just between you and me, as we've updated these kitchens, we've found that the refrigeration units in many of these older stores aren't quite up to snuff. On more than one occasion, raw meat and dairy were much too warm. The problem is they go in and out of temperature. Sometimes food is too hot and sometimes its not. Even the coolers that work properly now, probably won't last long. When restaurant management finds food that is not kept cold enough, they throw it out, which hurts our bottom line. But, I'm also worried about the times when managers don't notice and these products go out to customers. In the best case, we're serving low-quality food. In the worst case, someone could get sick. It's a small, but real, chance and each day the updates aren't made we're taking a gamble. Can you imagine what that kind of publicity a food safety lawsuit could bring? That kind of press can haunt a company's bottom line for years. In that case, you could kiss your bonus goodbye for awhile."

"The other news is something you may already know about. It's no secret that with the temporary rise in beef prices, the burger industry has had a rough year. **But, somehow our competitors have all hit their EPS forecasts this year and Wall Street analysts expect us to do the same.** As it stands now, I'm not sure how we can hit the target. With that said, if you can figure out a way to help, you'll make a name for yourself quickly. For the most part, our shareholders are focused on the long-term and can handle a one-time dip in EPS, but those Wall Street guys can really punish our share price in the short-term for it."

"I think that's all that's going on that you don't already know about. Any questions?" Mike asks.

"Just one," you say. "Delta region has been the top dog at the company for years and everyone knows you usually have one of the biggest bonuses in the company, do you have any advice for me as I take over?"

Mike smiles and says, "Just one thing, Chris. Being a regional manager means your decisions are important as they are implemented in each of your restaurants, so make sure you never forget to Think BEAN."

>>

Think BEAN!

EXHIBIT 14c

Meeting with Regional Manager (Higher-level Construal Intervention Conditions)

Bean's Burgers

July 24, 2014 - After lunch with your new district manager team you remember you have a meeting scheduled with Mike Beecher, the outgoing regional manager for the Delta region. Mike has done a great job managing the Delta region of Bean's for the past 10 years, but he has decided to retire and you have been tapped to lead Delta. You hope that he will share some of his secrets for success with you as he updates you on news in the region.

"Hey Chris, Pat wanted me to update you on what's going on in the Delta region before I leave," Mike says as he enters your office.

"Well, as you may know, many of the restaurants in the Delta region were part of Bean's first big push across the country years back. This means that the kitchen equipment in these restaurants isn't doing so well. Of course, customers don't see our kitchens, but they are a major part of our operations. A couple years ago we started replacing kitchen equipment in these restaurants, but we still have about 350 left to update. Bringing one of our kitchens up to 2014 standards costs about \$10,000. We've budgeted to complete the rest of the updates by the end of 2014 and you'll need to authorize the spending for these later today. Frankly, it can't come soon enough -- the equipment gets worse as it gets older."

Mike leans in and starts to whisper, "Just between you and me, as we've updated these kitchens, we've found that the refrigeration units in many of these older stores aren't quite up to snuff. On more than one occasion, raw meat and dairy were much too warm. The problem is they go in and out of temperature. Sometimes food is too hot and sometimes its not. Even the coolers that work properly now, probably won't last long. When restaurant management finds food that is not kept cold enough, they throw it out, which hurts our bottom line. But, I'm also worried about the times when managers don't notice and these products go out to customers. In the best case, we're serving low-quality food. In the worst case, someone could get sick. It's a small, but real, chance and each day the updates aren't made we're taking a gamble. Can you imagine what that kind of publicity a food safety lawsuit could bring? That kind of press can haunt a company's bottom line for years. In that case, you could kiss your bonus goodbye for awhile."

"The other news is something you may already know about. It's no secret that with the temporary rise in beef prices, the burger industry has had a rough year. **But, somehow our competitors have all hit their EPS forecasts this year and Wall Street analysts expect us to do the same.** As it stands now, I'm not sure how we can hit the target. With that said, if you can figure out a way to help, you'll make a name for yourself quickly. For the most part, our shareholders are focused on the long-term and can handle a one-time dip in EPS, but those Wall Street guys can really punish our share price in the short-term for it."

"I think that's all that's going on that you don't already know about. Any questions?" Mike asks.

"Just one," you say. "Delta region has been the top dog at the company for years and everyone knows you usually have one of the biggest bonuses in the company, do you have any advice for me as I take over?"

Mike smiles and says, "Just one thing, Chris. Being a regional manager means your decisions are important as they are implemented across your region, so make sure you never forget to Think BEAN."

>>

Think BEAN!

EXHIBIT 15

Meeting with Regional Manager Attention Check

True or False: Bean's Burgers has planned to update all 350 remaining outdated kitchens before the end of 2014 (approximate cost per kitchen: \$10,000; total cost: \$3,500,000)

☐ True

☐ False

Does Mike Beecher, the outgoing regional manager, currently have a plan to help the company achieve the 2014 EPS target?

☐ Yes

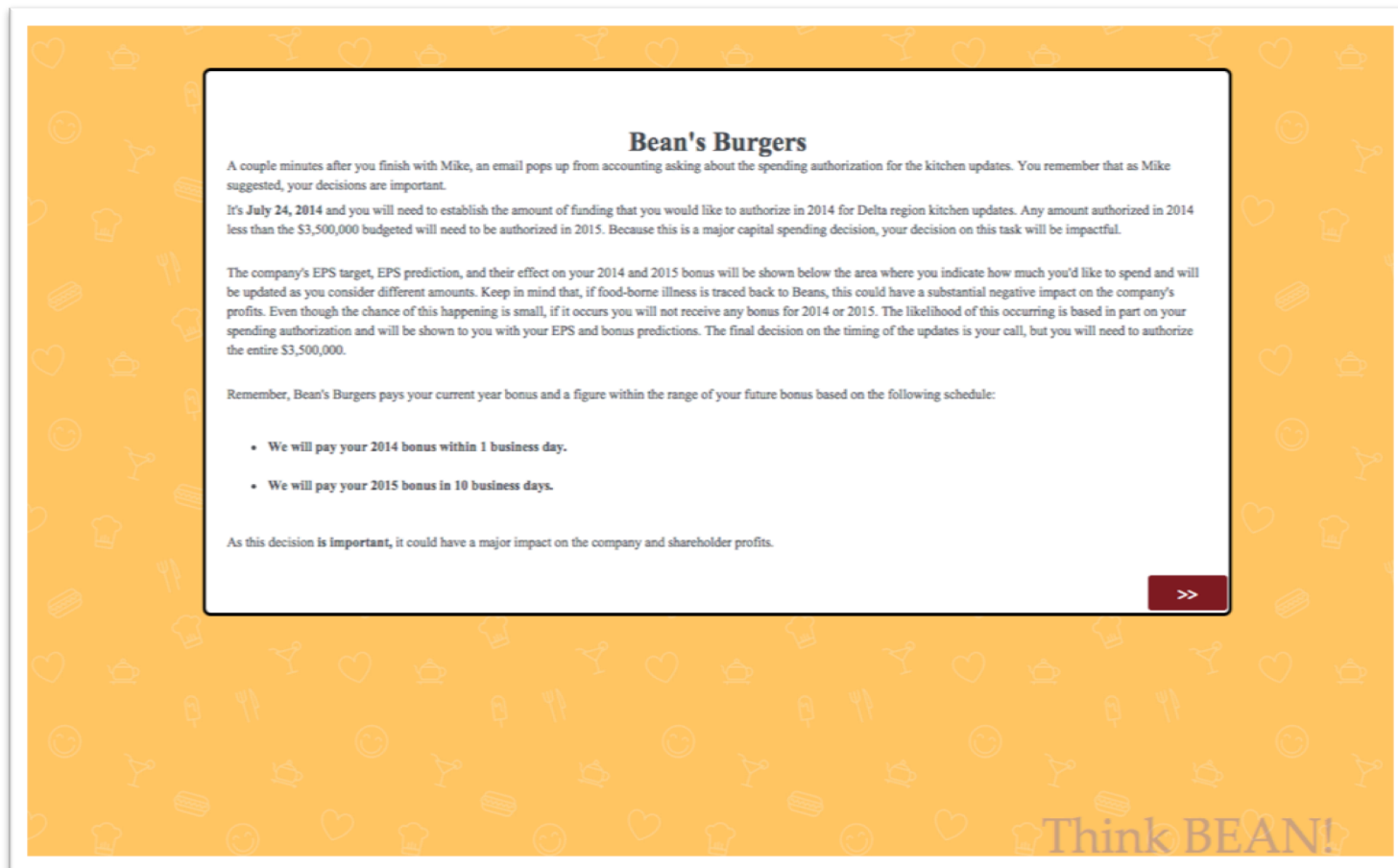
☐ No

[>>](#)

Think BEAN!

EXHIBIT 16a

Spending Decision Explanation (Construal Intervention Absent Conditions)



Bean's Burgers

A couple minutes after you finish with Mike, an email pops up from accounting asking about the spending authorization for the kitchen updates. You remember that as Mike suggested, your decisions are important.

It's **July 24, 2014** and you will need to establish the amount of funding that you would like to authorize in 2014 for Delta region kitchen updates. Any amount authorized in 2014 less than the \$3,500,000 budgeted will need to be authorized in 2015. Because this is a major capital spending decision, your decision on this task will be impactful.

The company's EPS target, EPS prediction, and their effect on your 2014 and 2015 bonus will be shown below the area where you indicate how much you'd like to spend and will be updated as you consider different amounts. Keep in mind that, if food-borne illness is traced back to Beans, this could have a substantial negative impact on the company's profits. Even though the chance of this happening is small, if it occurs you will not receive any bonus for 2014 or 2015. The likelihood of this occurring is based in part on your spending authorization and will be shown to you with your EPS and bonus predictions. The final decision on the timing of the updates is your call, but you will need to authorize the entire \$3,500,000.

Remember, Bean's Burgers pays your current year bonus and a figure within the range of your future bonus based on the following schedule:

- We will pay your 2014 bonus within 1 business day.
- We will pay your 2015 bonus in 10 business days.

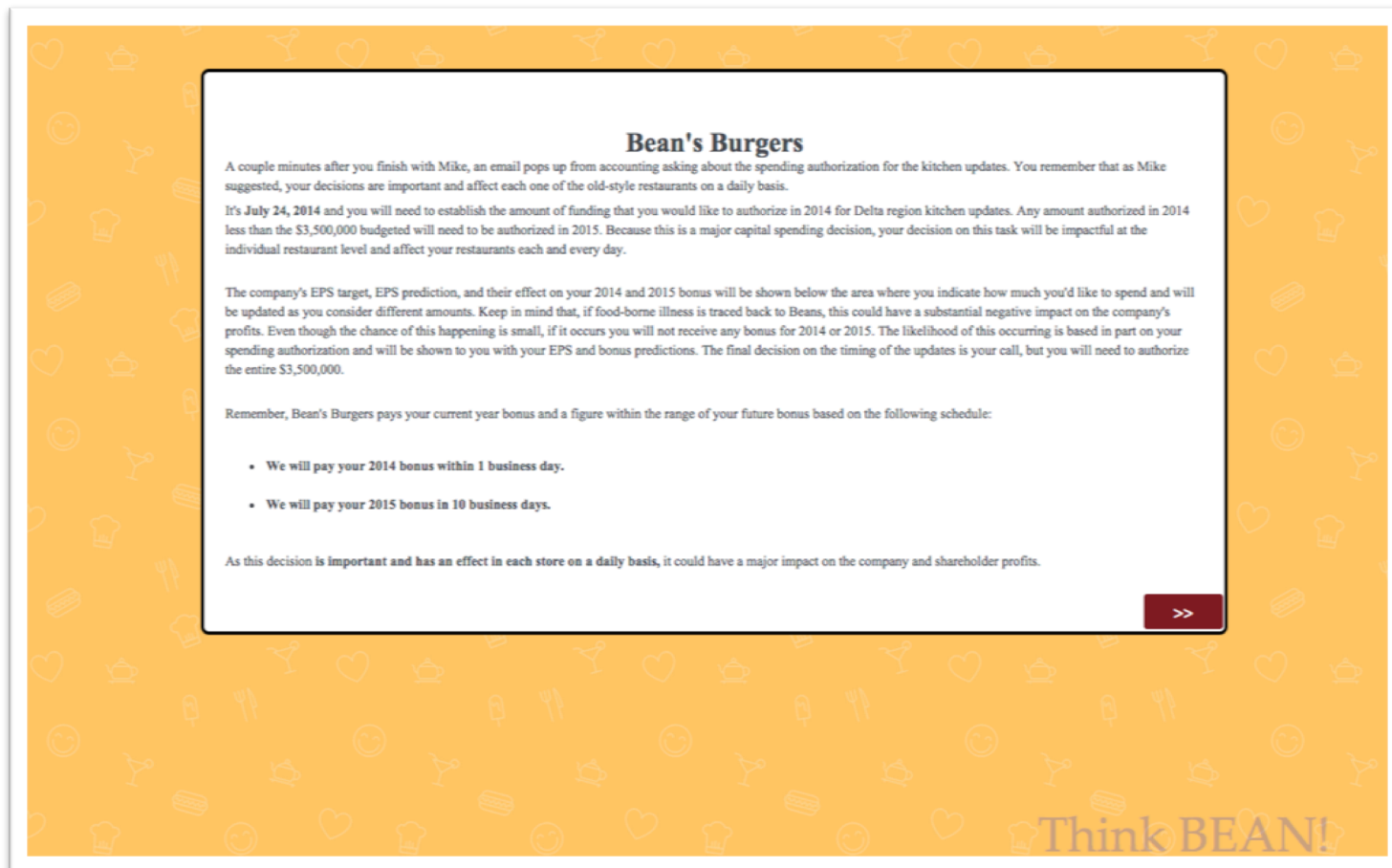
As this decision is **important**, it could have a major impact on the company and shareholder profits.

>>

Think BEAN!

EXHIBIT 16b

Spending Decision Explanation (Lower-level Construal Intervention Conditions)



Bean's Burgers

A couple minutes after you finish with Mike, an email pops up from accounting asking about the spending authorization for the kitchen updates. You remember that as Mike suggested, your decisions are important and affect each one of the old-style restaurants on a daily basis.

It's July 24, 2014 and you will need to establish the amount of funding that you would like to authorize in 2014 for Delta region kitchen updates. Any amount authorized in 2014 less than the \$3,500,000 budgeted will need to be authorized in 2015. Because this is a major capital spending decision, your decision on this task will be impactful at the individual restaurant level and affect your restaurants each and every day.

The company's EPS target, EPS prediction, and their effect on your 2014 and 2015 bonus will be shown below the area where you indicate how much you'd like to spend and will be updated as you consider different amounts. Keep in mind that, if food-borne illness is traced back to Beans, this could have a substantial negative impact on the company's profits. Even though the chance of this happening is small, if it occurs you will not receive any bonus for 2014 or 2015. The likelihood of this occurring is based in part on your spending authorization and will be shown to you with your EPS and bonus predictions. The final decision on the timing of the updates is your call, but you will need to authorize the entire \$3,500,000.

Remember, Bean's Burgers pays your current year bonus and a figure within the range of your future bonus based on the following schedule:

- We will pay your 2014 bonus within 1 business day.
- We will pay your 2015 bonus in 10 business days.

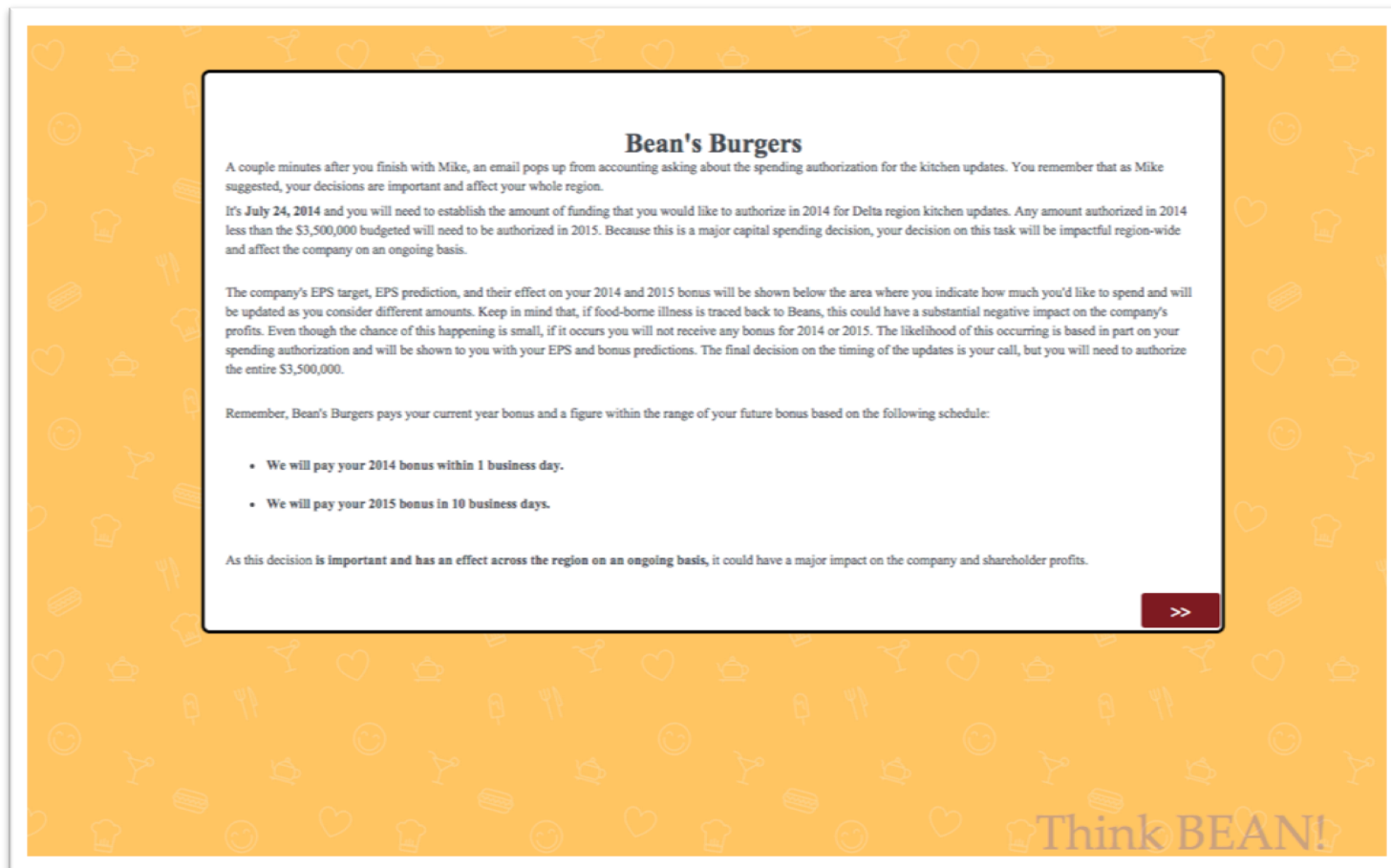
As this decision is important and has an effect in each store on a daily basis, it could have a major impact on the company and shareholder profits.

>>

Think BEAN!

EXHIBIT 16c

Spending Decision Explanation (Higher-level Construal Intervention Conditions)



Bean's Burgers

A couple minutes after you finish with Mike, an email pops up from accounting asking about the spending authorization for the kitchen updates. You remember that as Mike suggested, your decisions are important and affect your whole region.

It's **July 24, 2014** and you will need to establish the amount of funding that you would like to authorize in 2014 for Delta region kitchen updates. Any amount authorized in 2014 less than the \$3,500,000 budgeted will need to be authorized in 2015. Because this is a major capital spending decision, your decision on this task will be impactful region-wide and affect the company on an ongoing basis.

The company's EPS target, EPS prediction, and their effect on your 2014 and 2015 bonus will be shown below the area where you indicate how much you'd like to spend and will be updated as you consider different amounts. Keep in mind that, if food-borne illness is traced back to Beans, this could have a substantial negative impact on the company's profits. Even though the chance of this happening is small, if it occurs you will not receive any bonus for 2014 or 2015. The likelihood of this occurring is based in part on your spending authorization and will be shown to you with your EPS and bonus predictions. The final decision on the timing of the updates is your call, but you will need to authorize the entire \$3,500,000.

Remember, Bean's Burgers pays your current year bonus and a figure within the range of your future bonus based on the following schedule:

- We will pay your 2014 bonus within 1 business day.
- We will pay your 2015 bonus in 10 business days.

As this decision is important and has an effect across the region on an ongoing basis, it could have a major impact on the company and shareholder profits.

>>

Think BEAN!

EXHIBIT 17a

Decision “Loading” Screen (Construal Intervention Absent Conditions)



EXHIBIT 17b

Decision “Loading” Screen (Lower-level Construal Intervention Conditions)

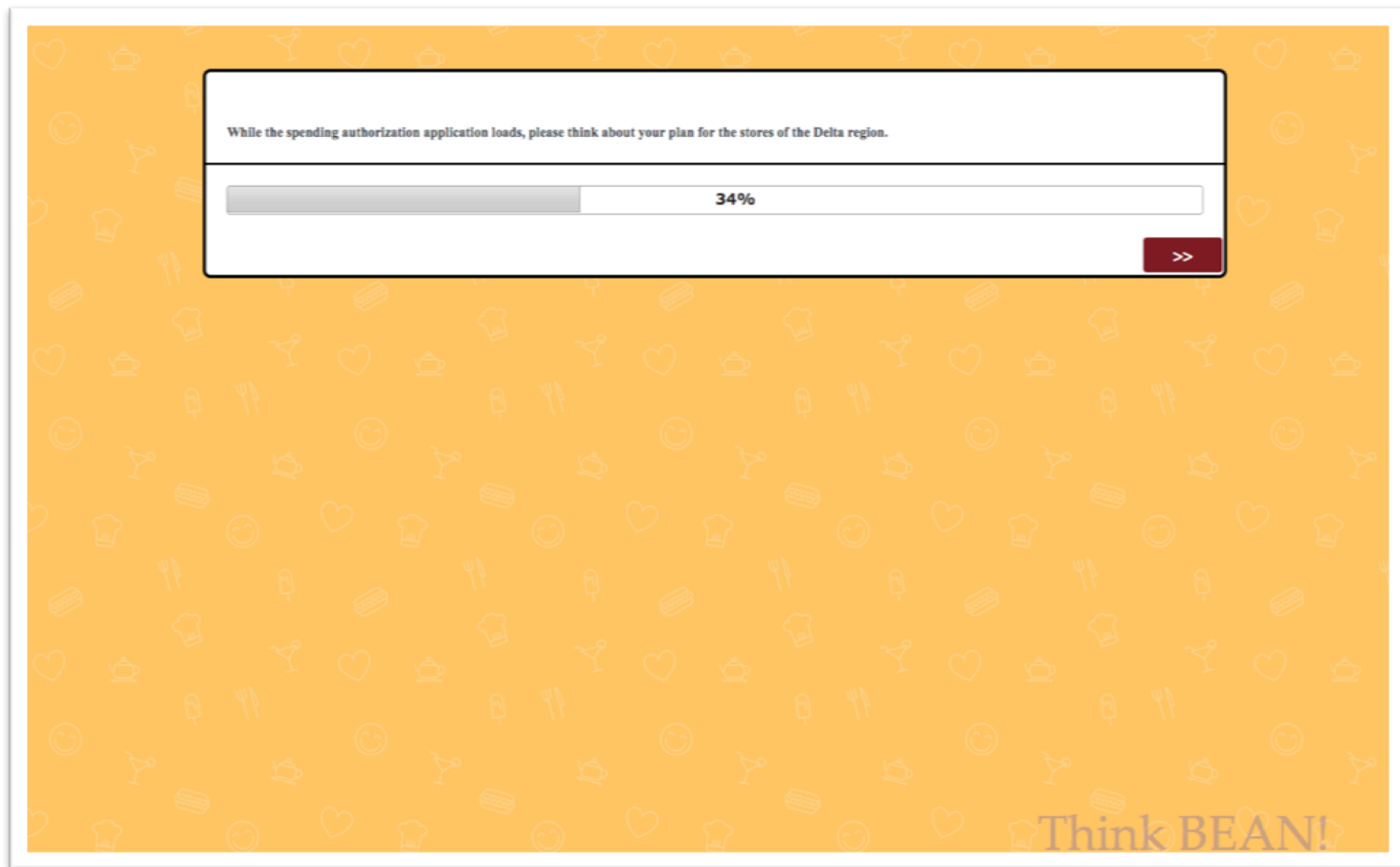


EXHIBIT 17c

Decision “Loading” Screen (Higher-level Construal Intervention Conditions)



EXHIBIT 18a

Spending Decision Screen (Construal Intervention Absent Conditions)

July 24, 2014 - Kitchen update authorization

Please indicate how much you'd like to authorize for Delta region kitchen updates in 2014. The project is expected to cost \$3,500,000 in total. If you'd like to review the information previously provided, place your mouse over this link: [Meeting with Mike](#)

Remember: your decision on this task will be impactful.

\$0 \$3,500,000

2014	<div><div></div></div>	1079546
2015	<div><div></div></div>	2420454
Total:		3500000

EPS and Bonus Calculator

	EPS Target	Projected EPS	Bonus Range
2014	1.13	1.16	0.70
2015	1.15	1.19 to 1.21	0.55 to 0.65
Risk:		9.00%	

>>

Think BEAN!

EXHIBIT 18b

Spending Decision Screen (Lower-level Construal Intervention Conditions)

July 24, 2014 - Kitchen update authorization

Please indicate how much you'd like to authorize for Delta region kitchen updates in 2014. The project is expected to cost \$3,500,000 in total. If you'd like to review the information previously provided, place your mouse over this link: [Meeting with Mike](#)

Remember: your decision on this task will be impactful at the individual restaurant level and affect your restaurants each and every day.

\$0 \$3,500,000

2014 1079456

2015 2420544

Total: 3500000

EPS and Bonus Calculator

	EPS Target	Projected EPS	Bonus Range
2014	1.13	1.16	0.70
2015	1.15	1.19 to 1.21	0.55 to 0.65
Risk:		9.00%	

>>

Think BEAN!

EXHIBIT 18c

Spending Decision Screen (Higher-level Construal Intervention Conditions)

July 24, 2014 - Kitchen update authorization

Please indicate how much you'd like to authorize for Delta region kitchen updates in 2014. The project is expected to cost \$3,500,000 in total. If you'd like to review the information previously provided, place your mouse over this link: [Meeting with Mike](#)

Remember: your decision on this task will be impactful region-wide and affect the company on an ongoing basis.

\$0 \$3,500,000

2014 1079456

2015 2420544

Total: 3500000

EPS and Bonus Calculator

	EPS Target	Projected EPS	Bonus Range
2014	1.13	1.16	0.70
2015	1.15	1.19 to 1.21	0.55 to 0.65
Risk:		9.00%	

>>

Think BEAN!

EXHIBIT 19a

Spending Decision Screen Confirmation Box (Construal Intervention Absent Conditions)

July 24, 2014 - Kitchen update authorization

Please indicate how much you'd like to authorize for Delta region kitchen updates in 2014. The project is expected to cost \$3,500,000 in total. If you'd like to review the information previously provided, place your mouse over this link: [Meeting with Mike](#)

Remember: your decision on this task will be impactful.

\$0

2014

2015

Total:

\$3,500,000

1079546

2420454

3500000

Are you sure?

Remember, your decision on this matter will be put into action.

Press Yes to Confirm.

	EPS Target	Projected EPS	Bonus Range
2014	1.13	1.16	0.70
2015	1.15	1.19 to 1.21	0.55 to 0.65
Risk:		9.00%	

>>

Think BEAN!

EXHIBIT 19b

Spending Decision Screen Confirmation Box (Lower-level Construal Intervention Conditions)

July 24, 2014 - Kitchen update authorization

Please indicate how much you'd like to authorize for Delta region kitchen updates in 2014. The project is expected to cost \$3,500,000 in total. If you'd like to review the information previously provided, place your mouse over this link: [Meeting with Mike](#)

Remember: your decision on this task will be impactful for students each and every day.

	\$0	\$3,500,000
2014	<input type="text"/>	1079456
2015	<input type="text"/>	2420544
Total:		3500000

Are you sure?

Remember, your decision on this matter will be put into action in each and every old-style kitchen.

Press Yes to Confirm.

EPS and Bonus Calculator			
	EPS Target	Projected EPS	Bonus Range
2014	1.13	1.16	0.70
2015	1.15	1.19 to 1.21	0.55 to 0.65
Risk:		9.00%	

>>

Think BEAN!

EXHIBIT 19c

Spending Decision Screen Confirmation Box (Higher-level Construal Intervention Conditions)

July 24, 2014 - Kitchen update authorization

Please indicate how much you'd like to authorize for Delta region kitchen updates in 2014. The project is expected to cost \$3,500,000 in total. If you'd like to review the information previously provided, place your mouse over this link: [Meeting with Mike](#)

Remember: your decision on this task will be impactful re is.

	\$0	\$3,500,000
2014	<input type="text"/>	1079456
2015	<input type="text"/>	2420544
Total:		3500000

Are you sure?

Remember, your decision on this matter will be put into action across the whole region.
Press Yes to Confirm.

EPS and Bonus Calculator			
	EPS Target	Projected EPS	Bonus Range
2014	1.13	1.16	0.70
2015	1.15	1.19 to 1.21	0.55 to 0.65
Risk:		9.00%	

Think BEAN!

EXHIBIT 20

Spending Decision Explanation



The form is titled "Spending Decision Explanation" and is set against a yellow background with a repeating pattern of small icons including hearts, chef hats, and food items. The main content area is a white rectangle with a black border. It contains two paragraphs of text and a large text input box. The first paragraph describes a scenario where a user receives an email from Pat Franklin, CFO, thanking them for getting to the spending authorization and asking for a description of their thought process. The second paragraph instructs the user to write an email to Pat explaining their decision. Below the text is a large, empty text input box. In the bottom right corner of the white area is a red button with white double arrows. At the bottom right of the yellow background, the text "Think BEAN!" is displayed in a stylized font.

As your day at Bean's Burgers comes to a close, you receive an email from the Pat Franklin, CFO. Pat thanks you for getting to the spending authorization today and mentions that he is happy you are on the team. In addition, he explains that he'll be discussing your plans with the Board of Directors tomorrow afternoon and asks you if you could describe your thought process regarding the choice you made. You start to think about what to write.

In the box below, please write an email to Pat *specifically* explaining how you came to your spending authorization decision.

>>

Think BEAN!

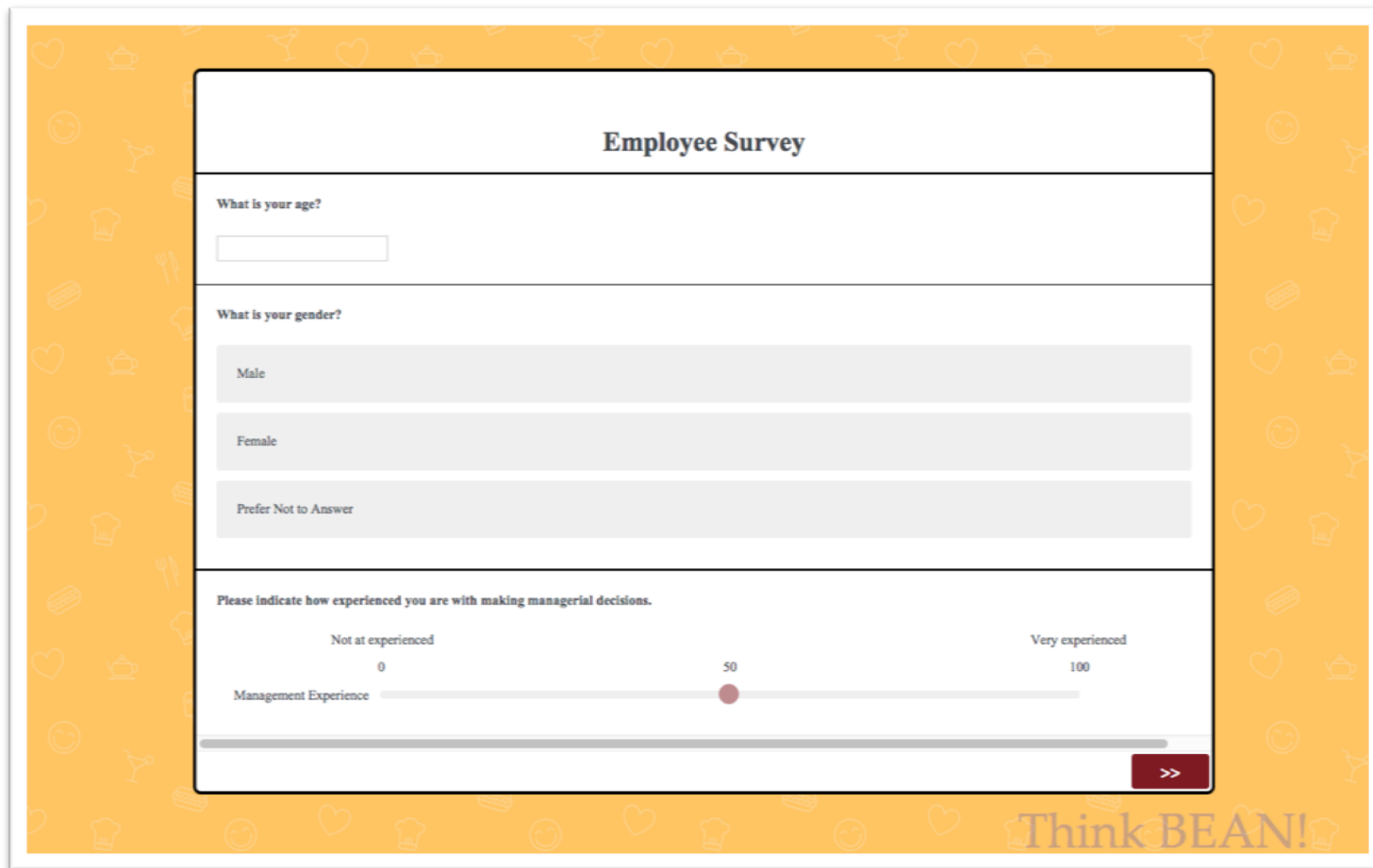
EXHIBIT 21

Transition Screen



EXHIBIT 22a

Post Experimental Questions



Employee Survey

What is your age?

What is your gender?

Male

Female

Prefer Not to Answer

Please indicate how experienced you are with making managerial decisions.

Not at experienced 0 50 100 Very experienced

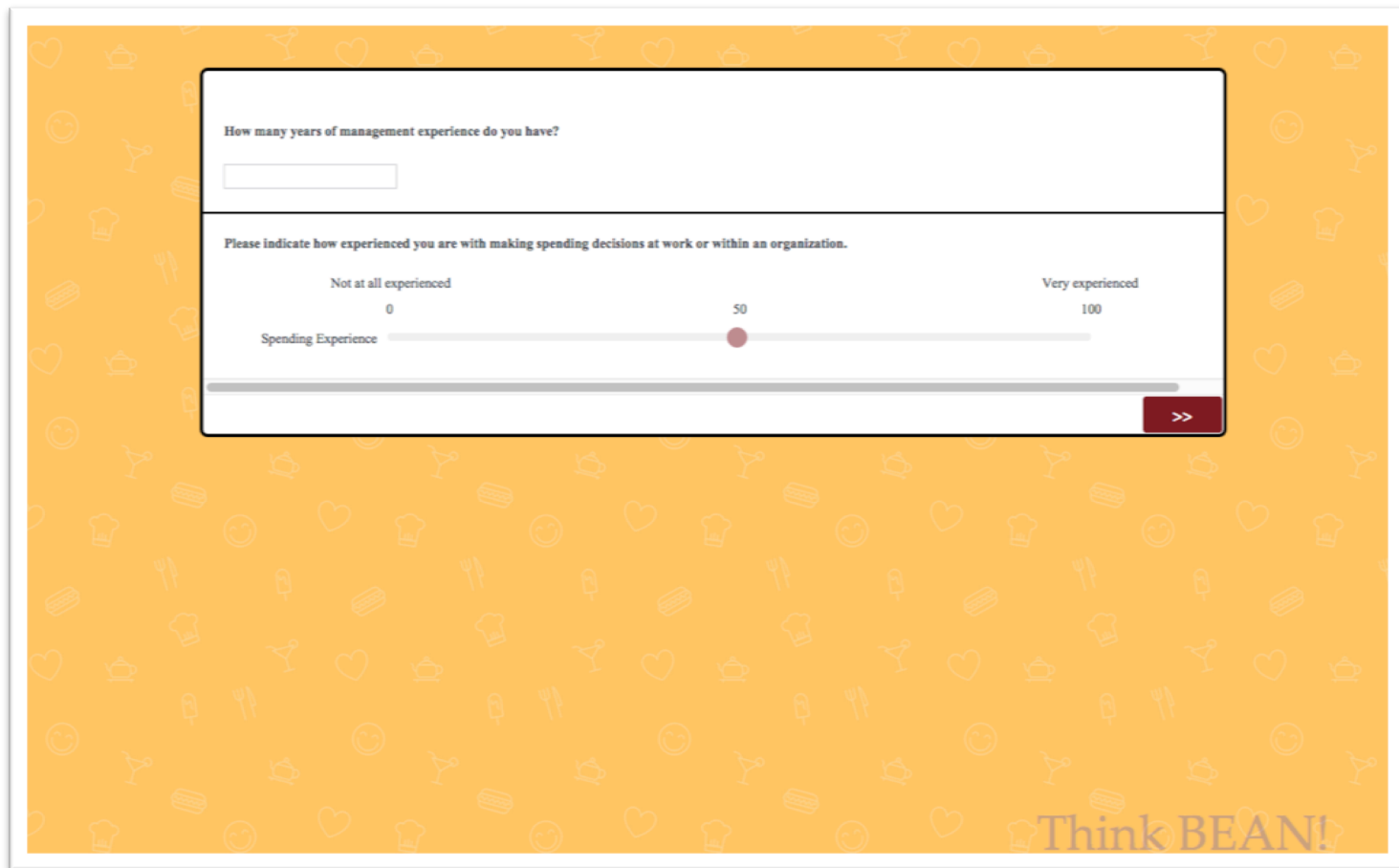
Management Experience

>>

Think BEAN!

EXHIBIT 22b

Post Experimental Questions



How many years of management experience do you have?

Please indicate how experienced you are with making spending decisions at work or within an organization.

Not at all experienced 0 50 100 Very experienced

Spending Experience

>>

Think BEAN!

EXHIBIT 22c

Post Experimental Questions

Please rate your agreement with the following sentences:

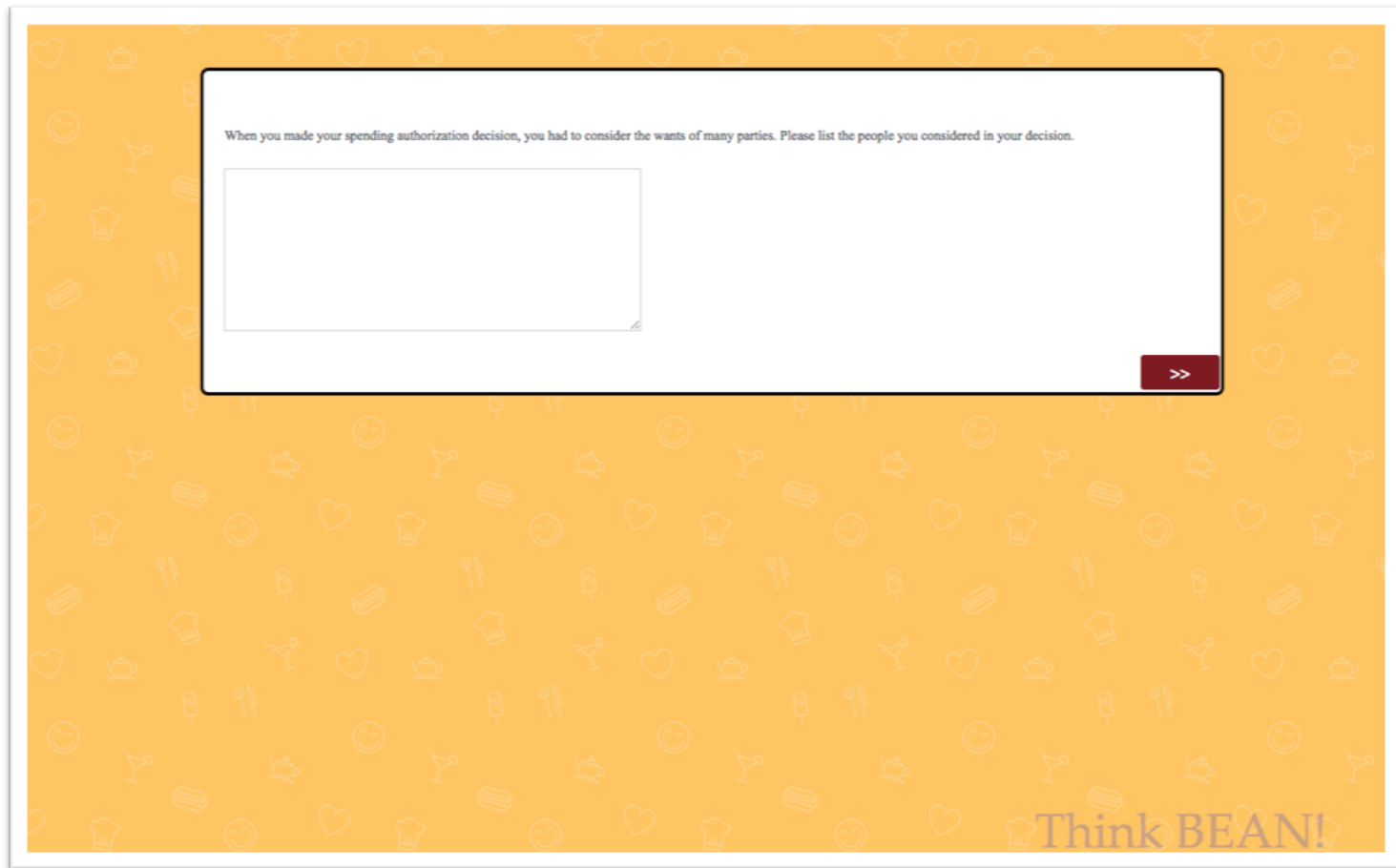
	Don't agree at all	0	10	20	30	40	50	60	70	80	90	100	Strongly Agree
I feel happy.													
I feel sad.													
I feel clever.													
I feel angry.													
I feel frustrated.													
I feel content.													
I feel smart.													
I feel accomplished.													

>>

Think BEAN!

EXHIBIT 22d

Post Experimental Questions



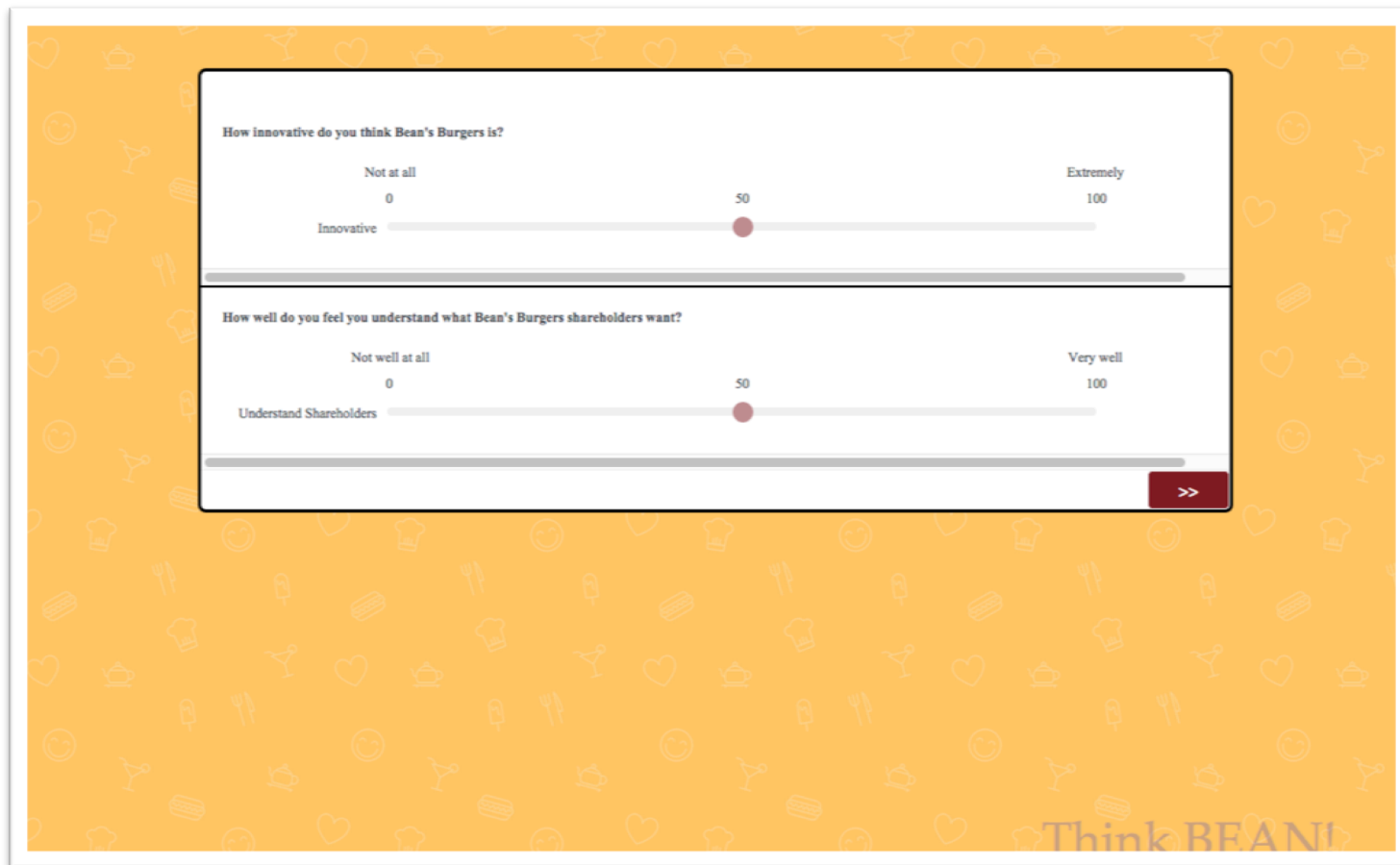
When you made your spending authorization decision, you had to consider the wants of many parties. Please list the people you considered in your decision.

>>

Think BEAN!

EXHIBIT 22e

Post Experimental Questions



The form is titled "Post Experimental Questions" and is set against a yellow background with a repeating pattern of food-related icons (hearts, chef hats, forks, knives, and burgers). It contains two horizontal sliders for rating responses.

Question 1: How innovative do you think Bean's Burgers is?

Not at all 0 50 100 Extremely

Innovative

Question 2: How well do you feel you understand what Bean's Burgers shareholders want?

Not well at all 0 50 100 Very well

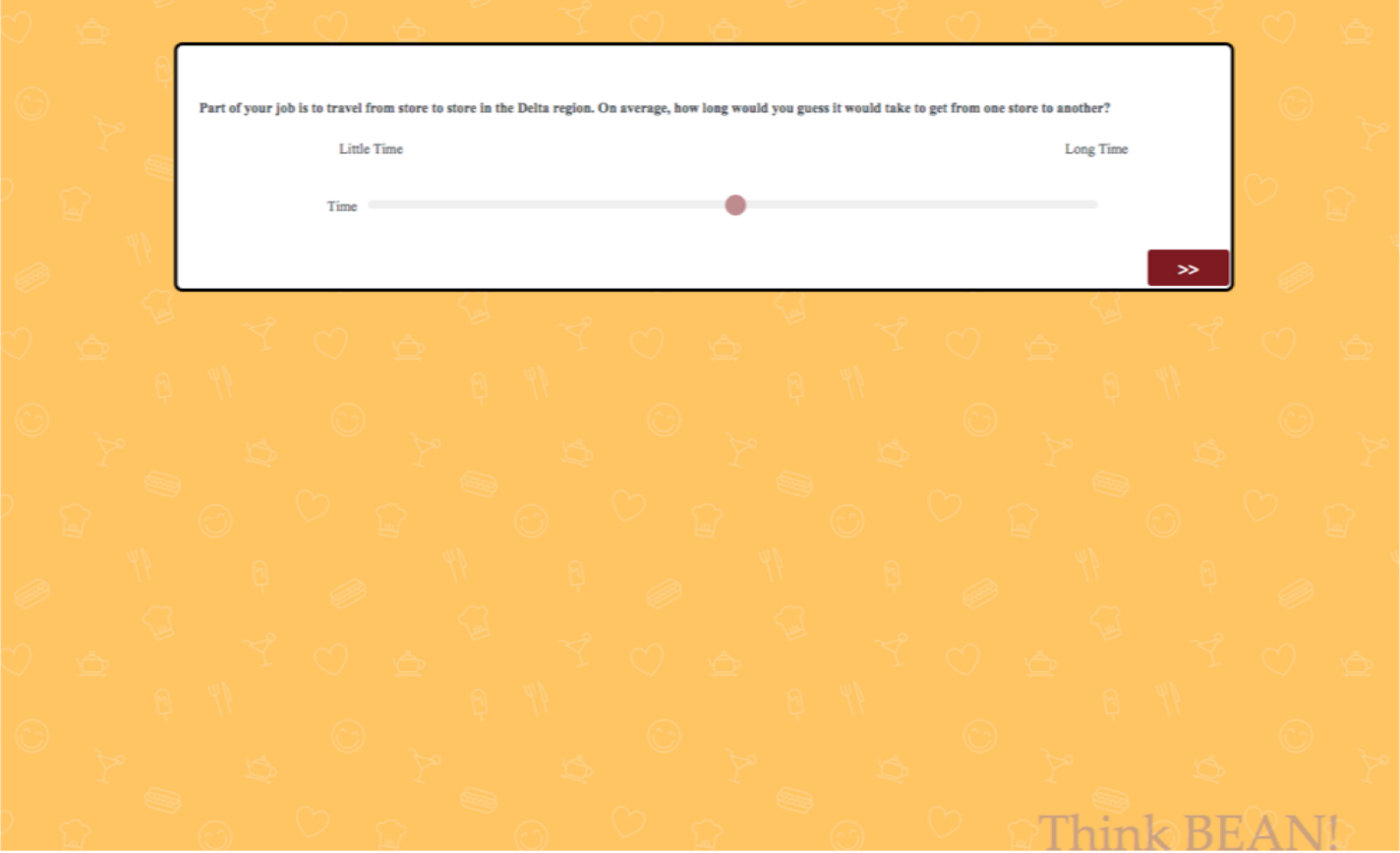
Understand Shareholders

>>

Think BEAN!

EXHIBIT 22f

Post Experimental Questions



Part of your job is to travel from store to store in the Delta region. On average, how long would you guess it would take to get from one store to another?

Little Time Long Time

Time

>>

Think BEAN!

EXHIBIT 22g

Post Experimental Questions

The screenshot shows a survey interface with an orange background featuring a repeating pattern of food-related icons (hearts, chef hats, forks, etc.). The survey is contained within a white rectangular box with a black border. At the bottom right of the box is a red button with white double arrows (>>).

When you made your kitchen update spending authorization decision, how strongly did you feel:

Not at all 0 50 100 Very Strongly

I *should* spend on kitchen updates *soon* (2014)?

I *want to* spend on kitchen updates *soon* (2014)?

How much chance do you think there is of food-borne illness at Bean's?

No Chance at all 0 50 100 Certain

Chance of Food Borne Illness

Think BEAN!

EXHIBIT 22h

Post Experimental Questions

How easy did you find explaining your thought process to the Pat regarding your spending authorization?

Very Difficult 0 50 100 Very Easy

Ease of explanation

>>

Think BEAN!

EXHIBIT 22i

Post Experimental Questions



The form is titled "Post Experimental Questions" and is set against a yellow background with a repeating pattern of small icons including hearts, lightbulbs, and smiley faces. The form itself is a white rectangle with a thin black border. Inside the form, the text reads: "If you had any technical difficulties with the experiment today, or if there is any other information you'd like to provide to the requestor, please enter it in the box below." followed by "Thank you." Below this text is a large, empty white rectangular box for input. In the bottom right corner of the form, there is a red button with white double arrow symbols ">>". At the bottom right of the yellow background, the text "Think BEAN!" is visible in a stylized font.

If you had any technical difficulties with the experiment today, or if there is any other information you'd like to provide to the requestor, please enter it in the box below.

Thank you.

>>

Think BEAN!

EXHIBIT 23

End of Experiment and Bonus Payout Screen



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